

AMERICAN BEE JOURNAL

The Oldest Bee Journal in the English Language

ESTABLISHED BY SAMUEL WAGNER IN 1861

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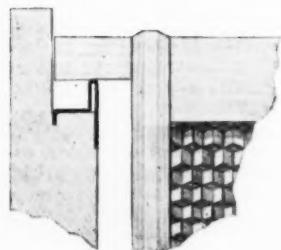
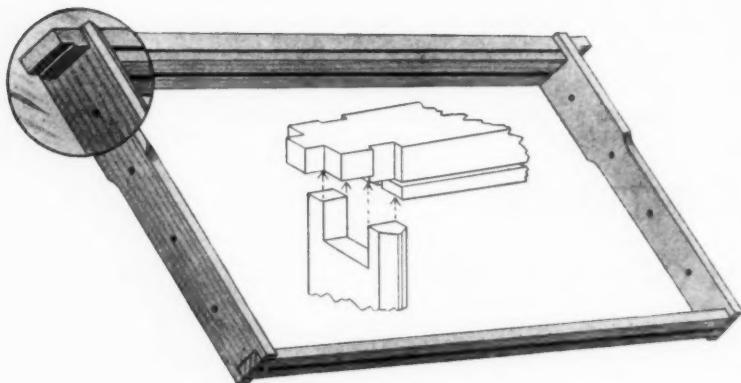
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The upper picture shows the Lewis end spacing construction that needs no staple for either short or long top bar style. The center picture shows the strong lug in every Lewis frame.



The G. B. Lewis Company celebrates 75 years of making beehives, in 1938. You will want our Diamond Anniversary catalog. Write for a free copy at once.

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Trade Agreements

THREE is much argument regarding the value of foreign trade agreements and some fear expressed concerning their effect on American commerce.

In past years Germany has been a good customer for American honey and much of our surplus has been sold in that country. In recent years the mounting tariff barriers have closed that market to us.

There are many things which the Germans make more efficiently than we, which they might trade for our honey, to mutual advantage of both countries. Since the German beekeepers are unable to produce as much honey as their markets demand they are not injured by the importation of our product. The same is true of goods which the Germans produce in surplus which we need. A ready exchange of goods serves to increase the prosperity of all concerned.

—ABI—*

The Weather

ABUNDANT rains in the Midwest during the spring months have served to improve the prospects of all who depend upon agriculture in this region. Although this area is subject to sudden changes and dry weather may come again soon, all is green and promising at the time of this writing. Instead of the anxious fears of the past few years of drought, the average person displays optimism and hope. It is astonishing what a change a good rain can make in the state of mind of the man on the street.

However, there has been a shortage of moisture since 1930 and the subsoil reserves are at a very low point. It will require a long period of wet weather to fully supply this deficiency.

—IBJ—

Improved Prospects

REPORTS coming in from a large area indicate a favorable prospect for a good honey crop this season. Already some are fearful of falling prices as a result.

Generally speaking the seasons of greatest prosperity for our industry, as for others, have been ones with large yields at moderate prices. A heavy crop at a fair price is more profitable than a short crop at a high price.

Falling prices stimulate consumption and bring any product within reach of a larger number of persons in the lower income group. Present conditions do not indicate that prices will fall to extremely

The third of a series of pamphlets entitled, "Beekeeping in India," has come to the editor's desk. They are issued by the Bhupen Apiaries, Almora, U. P. India. This one is devoted to the subject of "What others are Doing" and tells something of the research work in bee-keeping under way in this country.

Of special interest to us is the introductory discussion of the philosophy of the people of India. It makes one wish to learn more of the country and people of that distant land. Our limited contacts with natives of India have already taught us that we might learn much from them.

The price of the 20 page booklet is 8 annas and to foreign purchasers one shilling.

Edgar Abernethy of North Carolina hints about using propolis scrapings in the smoker when working with ill tempered bees. I experimented. After smoke was coming easily from the smoker, I put in propolis, and the smell of the smoke even at a distance changed immediately. I lifted the smoke close to my nose and gave an extra hard puff, and as a result, the inside of my nose burned for fifteen minutes and I coughed several times. It should make the bees gentle and on repeated trials, I found that it does so. I also found that powdered pine resin is about as satisfactory as propolis.

Carl M. Teasley,
Tennessee.

One of the best honeyflows from pennyroyal in Florida ever known has just closed. It began December 20 and has been constant. Orange is closing, and saw palmetto is coming on.

Jay Smith,
Florida.

I have been inspecting bees in three counties in Kansas and found them in the poorest shape in twenty years. Last year there was 75 per cent loss caused by drought and grasshoppers which practically ruined the fall flow.

W. E. Stepp,
Kansas.

E. F. Quigley, Unionville, Missouri died March 3. He was a beekeeper for 54 years, one of the old school, well versed in every detail of bee-keeping.

Fred Drury,
Iowa.

We are having a good honeyflow which is rather remarkable as the drought in Arizona is the most prolonged in any of my experience. Colony conditions are not up to par, however, so few beekeepers will get full benefit from the flow.

H. E. Weisner,
Arizona.

The loss from flood in California is estimated about twenty thousand colonies in the north, and about ten thousand in the central part and about ten thousand in our immediate locality. These estimates are made by the beekeepers in each of the counties which we serve, and are somewhere near correct.

The orange honey crop is very short owing to too much fog and rain during the blossoming period of the orange trees.

William Atchley,
California.

Stocks of honey in the Intermountain region are extremely light and only occasional carloads are being marketed, a survey of the market reveals.

Bee condition in June improved following a stormy and windy season which kept Utah bees from working on fruit bloom and dandelions. Bees dwindled and some colonies are reported to have died out from starvation. In Idaho some bees were fed late this year, but the bees are mostly out of winter pack and in good condition. Several frosts did little damage.

In Wyoming beekeepers are apprehensive about possibilities of serious infestations of grasshoppers and Mormon crickets. Little honey remains to be sold.

Glen Perrins,
Utah.

I am told by beekeepers the oranges did not do much and up to date the mountains in this district will not make any sage. The wild buckwheat looks pretty good and the bees are working on it but many of the colonies are in poor shape to make any kind of a run unless it holds off from getting hot too soon. The valley plants may produce nectar after July first but at present some are feeding. We have had too much cool and windy weather.

L. E. Orr,
Kings County, California.

low levels. Too many new outlets for honey have recently appeared to permit serious developments in that direction. Even a slight drop would bring new buyers into the market.

The number of buyers of a luxury product is always limited but a figure near that of competing sweets the baking trade alone is prepared to handle an immense amount of honey.

Prospects for the beekeeping industry at present look very favorable to us. Not only is there promise of a profitable crop, but market conditions appear to be far more stable than they were a few years ago. Increasing demand for bees for purposes of pollination bids fair to tax the resources of the package shippers for some years to come.

ABJ

Amateur or Specialist

THE bee magazines of Europe are largely edited for those who have but a few hives of bees as a hobby. American bee publications are devoted particularly to the interests of the specialists who devote their entire attention to honey production.

Bee behavior, honey plants and the doings of the various societies devoted to beekeeping, take up the greater amount of space abroad; while large scale production and marketing of honey are of most interest here.

Some Americans are inclined to show contempt for the fellow who has but a few hives, but the fact should be borne in mind that much of our progress is due to the efforts of just that kind of bee-keeper. The man who has a thousand hives of bees may give proper instruction in the efficient removal of the crop or preparation for market, but he has little time to observe the activities of the bee.

It was only when our operations became so big that our beemen no longer had leisure to observe, that we came to depend upon trained scientists with well equipped laboratories to make investigations for us. While the scientist can do things which few of us are equipped to do, the industry has lost much in the passing of the naturalist type of beekeeper whose interest in his bees was prior to his interest in the sale of his crop.

It would seem that we have need of both the scientist and the unofficial observer, and that encouragement should be offered to the rank and file of beekeepers to enter discussions at the conventions instead of devoting all the time to lectures by specialists.

ABJ

Farmer Beekeepers

IN the April Scottish Beekeeper we note the statement that in Scotland the keeping of bees and the production of honey is one of the commonest of pursuits and that scarcely a farm but has a few bees. Mention is also made of the fact that probably not one hundred men in that entire country could be called "bee farmers."

Within the memory of the writer a similar condition prevailed on the farms of the Midwest. There is a serious question as to whether we have profited greatly in the exchange whereby bee-keeping passed into the hands of a few large scale honey producers.

In Scotland we are told that bee diseases are of as little concern as they were here fifty years ago. The spread of disease has accompanied the expansion of individual outfits. We are frequently told that it is the little beekeeper who is responsible for the spread of disease, but there is little evidence in support of that contention. In localities where there are no large outfits we usually find little disease. Scotland, where all are small, reports little bother about disease.

In reviewing the history of beekeeping in this country we are impressed with the fact that too often we have suffered from misguided leadership. The small hive fad had a great popularity for a time, until the business of honey production was nearly wrecked because of it.

Supply dealers ever alert to meet a popular demand, pushed the small hives until the let-alone beekeeper was removed from the picture because his bees died in winter. Commercial beekeepers learned better after a time, but in the meantime the little beekeepers had largely disappeared.

The general disappearance of bees from the farms was accompanied with a decline in seed production of the clovers. This decline resulted in high priced seed and less clovers were sown. Bee pasture declined accordingly, and thus has been set up a vicious circle which had tended to destroy honey production over a large area.

ABJ

Phacelia for Forage

AMONG the finest of our native honey plants are several species of phacelia. One, *Phacelia tenacetifolia*, which is native to California, was taken to Europe many years ago. There it has been grown to some extent as farm crop, and something of a boom for it developed in Germany in the late years of the last century.

Now we learn that experimental work in the breeding of this plant is under way in Germany, where it has been found valuable for the feeding of cattle. It is used either in the green state or as ensilage, but apparently does not make satisfactory hay.

In nutritive value it is reported as ranking between red clover and crimson clover and to be more palatable than alfalfa.

If this plant has proved of sufficient value in Europe to encourage German farmers to continue its cultivation for more than half a century, the question arises as to why it is not used in this country. Now that farmers so generally make use of the silo, it might be well to call attention to the tansy-leaved phacelia as a promising crop with which to provide ensilage.

If grown in large acreage it would provide wonderful bee pasture and yield an aromatic amber honey of good quality.

Just now changes in farm crops are taking place so rapidly that many beekeepers are compelled to change location in order to find dependable bee pasture. It is important that all possible attention be given to stimulating interest in suitable crops which, at the same time, yield plenty of nectar for the bees. Possibly phacelia may find a place in the farm plan somewhere in this country, as it seems to have done in Europe.

There is no record of George Washington ever having kept bees, but if all the people of this country of ours should follow his example in regard to eating honey, the result would be a surprise to modern beekeepers, and a marked increase in the demand for their product. Of Washington's eating habits a writer in *Hygeia* says:

"He ate heartily and was not over-particular about the fare, except with regard to fish, of which he was very fond. His breakfast consisted regularly of two or three small cups of tea, Indian meal cakes, and honey."

Washington followed Franklin's maxim of "Early to bed and early to rise," retiring at about 9 o'clock even when there was company in the house, and getting up at 4:30 or 5:00, although it is probable that he followed this schedule for reasons of his own rather than because Franklin had advised it. Franklin, by the way, violated this precept continually, along with most of the others that he gave to the world.

W. H. Hull,
Virginia.

I venture to say that in the history of this country, the swarms of bees have never been so scarce as they have this spring. Up to the middle of May, I only heard of three or four swarms. Probably due to the scarcity of food during the spring which resulted from beekeepers removing too much honey in fall for winter.

Last year, there was plenty of honey on the market in Dallas in May and April from Uvalda, but up to the middle of May this year, no Uvalda honey appeared on the market.

Ornithologists here also observe that purple martins usually abundant in spring have not arrived from southern Mexico and South America up to the middle of May. Bird lovers with their martin houses cleaned out and painted expecting their feathered friends were disappointed.

John R. Hancock,
Texas.

I have had twenty-five to thirty colonies of bees for eighteen years and have had 100 pounds or more of comb honey average per colony every year. Since we began to put our honey in window cartons, we can sell more than we can produce. Before, we always had to send the honey to Chicago to dispose of it, since the stores did not like it in the shipping cases. We use orange crates in which to deliver the cartons to the stores. I think the window cartons have helped honey sales more than anything else.

We had a wonderful fall flow from Hubam clover in our location.

Greshaw Bros.,
Illinois.

Our Extracting House

By N. L. Stevens and Son,
New York.



SEVERAL years ago we decided we were wasting energy extracting honey by hand power although this had been our practice from the time we began to keep bees. This work was done at each yard in buildings provided for the purpose and constructed so that they might be easily taken apart and removed if it ever became necessary to take the bees to another location.

Lacking some of the modern labor saving conveniences which were not available in the earlier days, we thought the only practical way to eliminate hand labor would be to fit out a portable power outfit. We bought a 24 frame Radial extractor, a honey pump and a $\frac{1}{2}$ H. P. gasoline motor which we mounted on a small platform. This outfit was light enough for two men to slide easily

from the rear of a truck into the building and back again when the day's work was done. As the machinery was all lined up on the moving platform, little time was required to get it in shape to start after it was installed in the building.

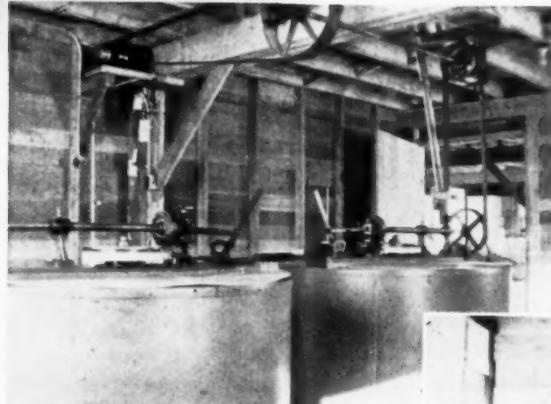
Since we are in a buckwheat location, much of our extracting is done in September after the nights have become cool. We found we could extract faster and cleaner with the old 4 frame machines we had been using, since cold honey leaves the combs slowly in a Radial extractor. We finally went back then to the hand extractors and kept the power machine at home to extract the cappings which were brought home each night in kegs. While many beekeepers are still using this method of separating honey from cappings, we think we have found an easier, cleaner and better way which saves all of the honey.

In 1935, we built a modern central extracting plant which has proved very satisfactory. The building is 32'x60' and the main part consists of a basement with two stories above and an attic. A garage for the truck 14'x44' with a 150 barrel cistern under the floor is attached to one side.

The basement contains a raised platform for supporting three storage or settling tanks with a capacity of 9000 pounds each. These are elevated so the honey may be drawn



Front view of honey-house, showing truck garage and unloading platform for the main floor.



Part of extracting room, with fifty-frame radial extractors.

Hydraulic lift truck with supers loaded on skids.





Side view of the honey house.

into a 160 pound keg. We find that by allowing the honey to remain in these tanks 48 hours, no straining is necessary. The honey from the extractors is drawn through an opening in the floor above, and conveyed by a trough to the tanks which makes the use of a pump unnecessary.

The basement also has a wax room and a wash room, leaving plenty of space for honey storage. The wax room contains melting tanks and wax presses, an automatic electric water pump and pressure tank, which furnishes water under pressure wherever needed; also a steam boiler which is used for heating the honey room whenever necessary, for heating the uncapping knife and capping melter, also rendering wax, heating water and other purposes for which steam is needed.

There are double doors at the lower end of the building for loading the honey on to trucks when ready for shipment. The truck is backed up to the doors where the ground is about four feet below the floor, making loading comparatively easy.

The natural slope of the ground, together with some extra grading, made it possible for us to have the main floor on a level with the truck platform which makes it practical to use a lift truck for loading and unloading the automobile truck. Our truck platform will hold twelve skids which hold twelve supers each, and

when we are taking off honey at the yards a metal tray is placed on each skid to catch the drip, and the supers of honey are placed on them. When loaded, the truck is driven home and into the garage beside the unloading platform.

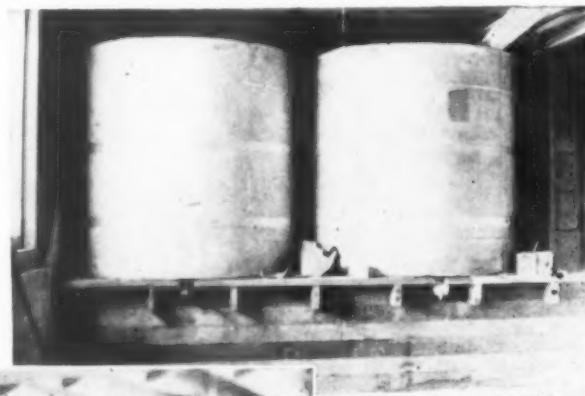
A folding platform is then lowered behind the truck from which the lift truck is pushed under one of the

skids. The handle of the lift truck is then pushed down to raise the skid about one inch from the floor, and the skid-load of honey is wheeled into the honey room and left there until needed for extracting, when it is again picked up and placed beside the uncapper in the extracting room.

It will be noted that the honey is not lifted by hand after being placed on the skids in the outyards until it is taken out of the supers, one comb at a time, to be uncapped, and the whole truck load of 144 supers can be unloaded by one man in a few minutes with little exertion.

After being uncapped, the combs are placed in the extractor from one side and as they are taken out on the other side, they are again placed in supers on skids and wheeled out of the extracting room, and left on the skids until they are returned to the yard.

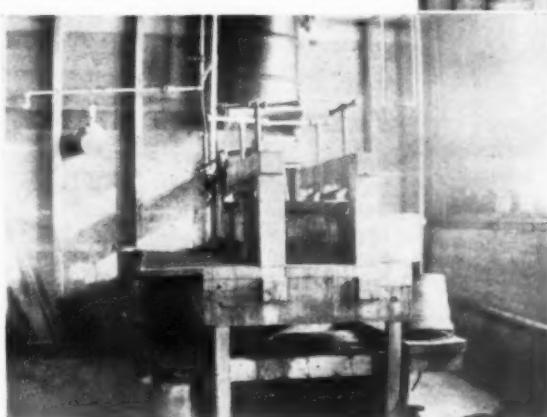
We use two 50-frame Radial extractors and fill one while the other is being emptied. We use a Brand capping melter which receives the cappings directly from the uncapping



Two of the settling tanks, holding nine thousands pounds each.



Part of the crop of buckwheat honey in kegs in the basement.



A corner of the wax room, showing the wax presses.

machine, and separates the honey from the wax without overheating, and when quitting time comes, the wax is in buckets and the honey is in with the rest where it belongs.

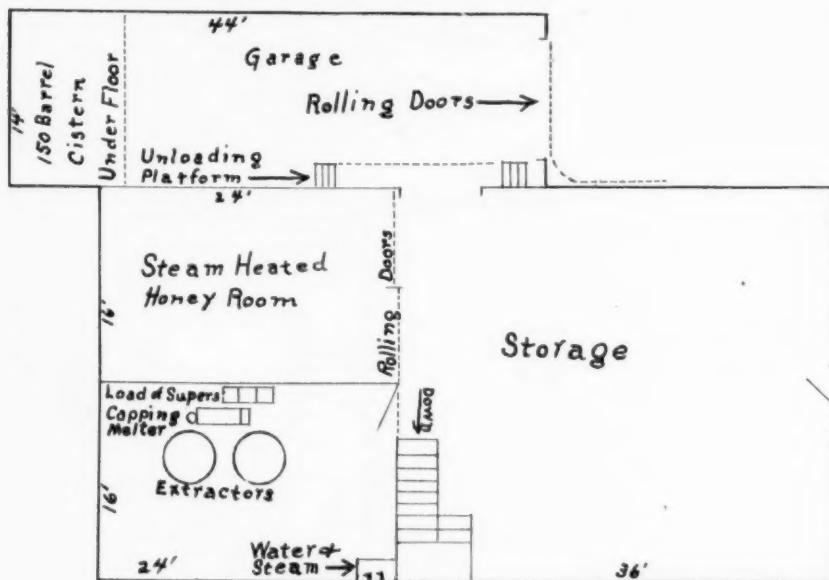
The uncapping machine and melter are mounted on a platform with casters so they are easily pushed from one extractor to the other as needed.

We have a workshop 16'x24' on the second floor which is equipped with a power saw, jointer, lathe, drill press and other machinery all operated by electric motors. As the chimney is connected with this room,

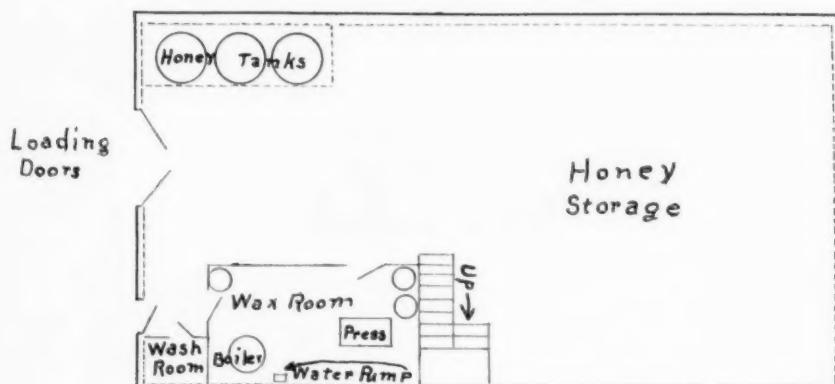
it is heated in the winter months and used when nailing up supplies and painting hives. The lift truck is brought up from the lower floor and used to bring skid-loads of material into the workshop to be made up and wheeled out again when assembled and painted.

There is another floor, the fourth one, counting from the basement, where lumber and other materials seldom used are stored. This building and equipment has proved satisfactory in practice, and two of the features which have contributed greatly to its satisfaction are the lift truck and the capping melter.

NORTH



Main Floor Plan



Basement Plan

Plans of the Stevens honey house

Beekeeping in Czechoslovakia

The present European misunderstandings have made our American people conscious of the Republic of Czechoslovakia whose government is patterned after that of the United States. A discussion, therefore, of beekeeping in Czechoslovakia is particularly timely.

There has come to this office the first volume of a proposed series of some ten volumes which will be edited under the auspices of the state of Czechoslovakia and designed eventually to cover the entire scope of beekeeping.

We have the first volume consisting of some 300 pages before us, "Apiculture in the Republic of Tchecoslovaque in 1936," published by the Office of Statistics of the State with Jaroslav Ryter as editor-in-chief. It has to do entirely with statistics covering the bees and beekeepers of Czechoslovakia. The summary is as follows:

There were in 1936 a total of 133,071 beekeepers in Czechoslovakia having a total number of colonies of 689,758, or an average of approximately five colonies per beekeeper. The colonies above were spring count. Fall count showed 895,555 colonies, most of which increase was made through natural swarming. Of the total number of colonies, only 59,223 were in box hives or a little less than 7 per cent.

It is interesting to note that of the movable comb hives, 563,000 were back opening, 144,000 top opening and 128,000 both back and top opening. In other words, the European type of hive is still more largely used than our American top opening style.

Of the 133,071 beekeepers, there were 122,357 who had fifteen colonies or less, 10,487 who had sixteen to sixty colonies, and only a total of 227 beekeepers in the state with over sixty colonies.

Another interesting item is that of the 133,071 beekeepers, there were 97,735 who were members of beekeepers' organizations and they owned a total of 765,558 colonies of bees. The 35,336 non-members had a total of 129,997 colonies or an average of a little over three colonies per person.

We venture the assertion that the number of members of organizations in Czechoslovakia alone will far more than equal the total number of members of all organizations of beekeepers in the North and South American continents combined.

What could the United States do for instance if she had 100,000 of her beekeepers organized and in a position to use their influence both directly and indirectly for the furthering of beekeeping?

Bees and Red Clover*

By Mykola Haydak,

University of Minnesota.

DARWIN first called attention to the problem of interrelation of bees and red clover. He measured the length of corolla tubes of the red clover flowers and the length of the bee tongues. He concluded that bees cannot get nectar from red clover. To remedy that, he suggested that either the bee tongue must be prolonged or the corolla tubes of the red clover shortened. However, later experiments and observations showed that honeybees are effective visitors of the red clover and outnumbered bumblebees almost in any case.

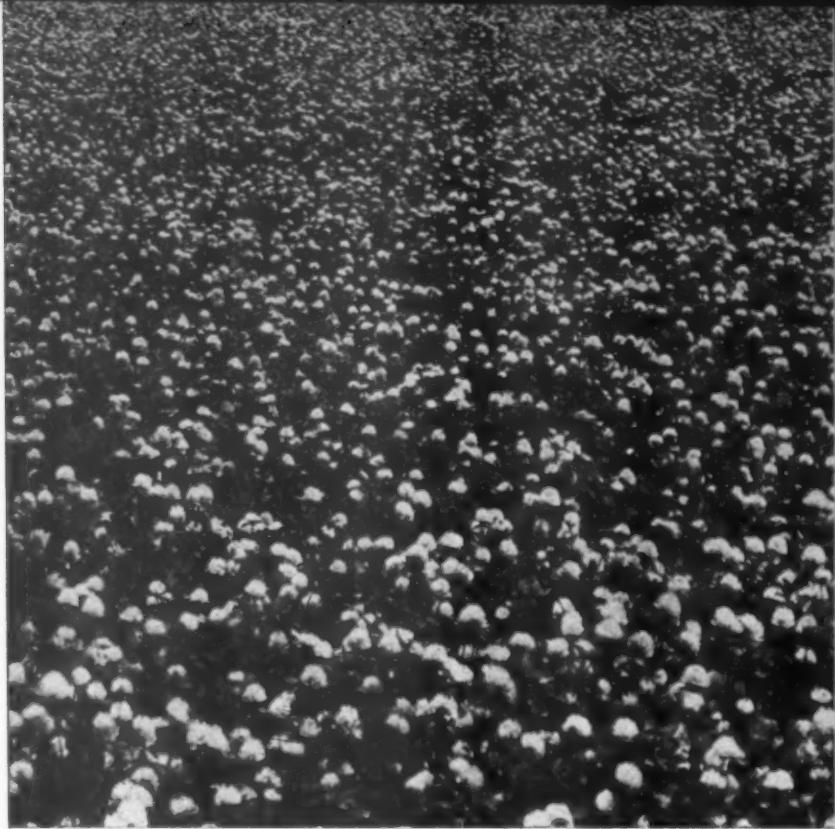
There is no use of introducing bees with longer tongues unless it is proved that they visit red clover better than ordinary bees. Gubin found that under eastern European conditions, long tongued bees do not work better on red clover. Short tongued domestic bees were more numerous than long tongued Caucasian bees on the experimental fields.

Further, to evaluate the work of bees in red clover pollination, one has to consider the distance at which an apiary is placed from the red clover field. Pollination in a field about half a mile away is only 67% and drops to 33% at the distance of about a mile, while a field a mile and a half away shows little or no effect. Therefore it is important to have hives at the same distance from the fields of red clover which we are comparing for the seed production.

We cannot control climatic factors which influence the secretion of nectar, but we can breed clover plants with shorter corolla tubes. Although there is no experimental evidence—so far as I know—that bees prefer to work on strains of red clover with shorter corolla tubes, it is probable, however, that shorter tubes will facilitate their work.

A number of investigators tried

*Paper No. 371, Miscellaneous Journal Series of the Minnesota Experiment Station.



to select red clover with shorter corolla tubes. Dr. Zofka, however, came the closest to the solution of this question. Over twenty years ago, when he was a student at the Czech University at Prague, he started to work on this problem. At the beginning he used the principle of selection, cross-pollinating flowers of red clover with the shortest corolla tubes. However, he did not obtain any positive results. In 1918, instead of selection, he turned to the crossbreeding. He crossed red clover with rabbit foot (*Trifolium arvense*) and then the resulting plant with alfalfa. By this method he shortened the corollas to 6-8 mm. There is a greater variability in the color of flowers of Zofka's clover than in the ordinary red clover. There are two seeds in the hull of Zofka's clover instead of one. The hay production of this clover is the same as that of red clover. It is more resistant to drought and can be grown on poorer lands. Practical beekeepers observed that more bees worked on Zofka's clover than on neighboring fields of ordinary red clover. However, there was no report as to how far from both fields the colonies were located.

Writers on the question of red clover pollination generally agree that honeybees will work on red clover if they are forced to do so. In connection with this, an item of interest was published in the "Ukrainian Beekeeper" in the December number, 1937. It is a known fact that bees find the sources of nectar by the odor of the plant from which the nectar was first brought into the hive. This

suggested the following experiment in the Soviet Ukraine: Colonies with yellow bees were fed a tea prepared from red clover flowers, and colonies with black bees were given heather tea. The number and the color of bees visiting those two plants were noted. The results were surprising. There were 2225 yellow bees and only 145 black bees per unit of surface of red clover and 2250 black bees and only 80 yellow bees on the same area of heather. Then colonies with black bees received red clover tea and yellow bees were fed heather tea. The count showed: 2837 black bees and 285 yellow bees on red clover, while there were 2875 yellow bees and 414 black bees on heather. Before changing the tea, the colonies were placed for two to three days in a cool place and then fed the tea. The latter was prepared as follows: Two pounds of sugar was dissolved in a quart of boiling water. When the solution cooled off, corollas of red clover were added to it and soaked for about two hours. Afterward each colony received about seven ounces of the solution. The recommended method was that of giving such tea to bees daily as long as red clover was in bloom. The best results were when colonies were not more than half a mile from the field of red clover. The increase in the yield of seed was fourteen times normal. Unfortunately, no further details of procedure are given or authorities cited. Nevertheless, if authentic, the experiment opens a new approach to the problem of red clover pollination.



(This is the second of two articles on a trip through the South by M. G. Dadant. The first article appeared in the June issue.)

World famous street,
Fort Myers, Florida. (Photo
by Jay Smith.)

We Continue South

By M. G. Dadant,

Illinois.

NOW, we have reached the state where the oldest extension man in beekeeping in age and service is located, C. L. Sams, who has been with the Extension Department of the College of Agriculture at Raleigh, North Carolina ever since pre-war days. Sams ranks high with the beekeepers and any visitors. He has ably coordinated his work with that of F. B. Meacham at the State College as well as C. P. Craddock, recently appointed inspector. Mr. Craddock will have a pleasant though perhaps difficult job. In this state I first heard of a most unusual treatment for the eradication of American foulbrood, simply spitting tobacco juice on infected larvae. However, do not have much disease or you will not have room enough in your cheek for the necessary remedial ingredient.

In company with Mr. Sams, we struck out for the coast, encountering our first report of the depredation of bears. In these marshy wooded sections, bears are numerous and since bees must be located along the edge of marshy timber, the combination means considerable annoyance since the bears are fond of honey.

J. G. Carr showed us an electric fence to guard against Mr. Bruin. It had worked well and no doubt other fences will be used. F. L. Jordan,

further down the coast, one of the largest beekeepers, averages a loss of about 60 colonies every year from bears. He takes his loss into consideration as an item of expense. F. L. Huggins, R. W. Scott and others build high fences, set traps and use other means to combat the nuisance.

In the coast section of North Carolina we find quite a few commercial producers. Northern men find the Carolinas desirable for the breeding of additional stock for the succeeding year. The trip is not so far as it would be to go into the distant South. The spring is early enough to build colonies a month ahead of the North and the trip back with nuclei and full colonies less hazardous.

Naturally, if these northern beekeepers come in with clean equipment and clean bees, everything is well. An occasional careless one, however, means much infection, and it calls for an inspector to be on the alert and to work with the local beekeepers as well as those that come from outside.

In restricted areas, in this coastal goldenrod and other sources. The and considerable fall honey from goldenrod and other sources. The black land flats seem particularly desirable, a black gumbo covering a considerable area in which drainage

has been attempted. The flats abound in weed flora.

Mr. Jordon suggested that a race of bees which would not breed heavily after the last major honey-flow in June would be very desirable in his location. There is difficulty in keeping colony strength down and the consumption of honey at a low point after the early flows.

What a bonanza to these regions a legume like sweet clover would be. Newer types of lespedeza are reported to yield honey, but not in an amount to be regarded as more than a stimulant. Perhaps sufficient attention paid to plant breeding would result in a lespedeza that would be a real honey producer and increase the honey flora of this region.

Mr. Sams certainly believes in demonstration work. He has eighty demonstration apiaries through the state and conducts demonstration meetings wherever possible. On our trip a stop was made to demonstrate the burning of a colony infected with American foulbrood, an object lesson worthwhile not only to the beekeepers, but to our traveling group.

One thing that impressed me about both the Carolinas is that the County Farm Agent works under a different plan than in our western states. They are employed jointly by the state and by the federal government, and are



Apiary on the Plain farm, at Fletcher, North Carolina. (Engraving courtesy of Farm Federation News.)

Apparently, the folks in the Cherokee Reservation are better satisfied than we people of so-called higher civilization, yet, the irresistible force carries us in a direction which we may deplore, and yet in which we are forced to go.

Strange isn't it, that an Illinois car would have to go into western North Carolina to find snow in January and to collide with an Idaho car? That is what happened to us. Outside of a sprained wrist for Mrs. Dadant and the fact that the rest of our party, Mr. Sams, Mr. Hiett and myself, had a good scare and a severe chill in the snowy, damp mountain air, nothing serious came of it.

In the vicinity of Asheville, we attended two fine meetings. Here, we were in the heart of the sourwood section and of the tourist area, hundreds of beautiful summer homes; plenty of market for the home produced sourwood honey.

On the way out of North Carolina into Ned Prevost's state, we came upon one of the most beautiful apiaries I have ever seen, that of Mr. Louradour near Saluda, North Carolina, at "Fig Falls," a most delightful setting against a hill with beautiful falls behind, and the home nestled above the roadway along the cliff.

Mr. Louradour has kept bees in California and Florida, but selected this spot for a permanent home. He has a novel swarm catcher which is made of a jointed pole on a sliding plan so each joint is only 6 or 8 feet

not dependent upon subscriptions from County Farm Bureau members as in the states farther west. So the Farm Advisor is at the service of every farmer, large or small. He makes as much effort to help the single acre farmer as the larger one. He is naturally interested in diversified agriculture and beekeeping fits into this picture. As a result, with men like Sams and Prevost on the job, beekeeping is recognized by every county agent as part of their work. I wonder how much the average Illinois farm agent knows about bees? In the Carolinas I found all the farm agents knew bees and beekeeping, and that they can talk about them intelligently.

In North Carolina, we had the pleasure of a visit to an old plantation home, a visit to the seashore with Mr. Huggins at Wilmington, a trip into the mountainous Smoky National Park. C. D. Adams, Farm Agent, in the Cherokee Indian

Reservation in the midst of the Smokies, invited us into his territory for a meeting.

Most of the bees in the reservation are still kept in box hives. I imagine Mr. Adams has difficulties in getting the residents to change over to modern beekeeping. There is a natural aversion on the part of the Indians to getting away from traditional methods. Even the fact that honey may readily be sold to tourists along the highway, which passes through the chief Indian village, it seems to have little impression on the Indian beekeeper.

I wonder whether in our hustle and bustle in our endeavor to make more money to have more conveniences and pleasures which in turn demand more money, if we are far ahead of the primitive people who live off the land and are satisfied?

Cocoanut palms on the Edison estate at Fort Myers, Florida. (Photo by Jay Smith)





E. S. Hull, Asheville, North Carolina, with fine lot of queen cells produced in his special frame in his queen-rearing yard. (Engraving by courtesy of Farm Federation News.)

high, and a comb or basket at the top may gradually be slid up under the swarm and again gradually let down after the swarm has clustered.

South Carolina conditions are similar to those of North Carolina. Sourwood is the preponderant crop in the foothills and mountains, with tulip-poplar second, and the shrubs and trees of the coastal plain, including the gums, and a gradually larger percentage of tupelo gums as one goes south. Here, also gallberry becomes important as a source of honey.

E. S. Prevost, like Mr. Sams, has done a great deal of demonstration work. I could see a large improvement in the beekeeping of the state since five years when I last visited there.

Mr. Prevost has organized a number of county associations and a working state association. As readers know, the Southern States Conference is scheduled to meet in South Carolina the week after Thanksgiving in 1938. Charleston, that quaint old city on the sea, replete in historic interest and charming in many ways, will be host to the beekeepers not only of the conference, but of other states.

Our stay in South Carolina was brief, but it did give occasion to visit numerous beekeepers. Here, we apparently have not reached quite far enough south to consider the country as a queen breeding section, and yet far enough so it is an ideal place to build up bees for northern flows. This is rapidly becoming recognized by northern and eastern neighbors who are mingling pleasure with business in putting their apiaries in condition for the northern season.

I was astonished in South Carolina by the number of plantations acquired by northern owners for



Mrs. M. G. Dadant in native costume.

recreation. It has returned the beauty of the old plantations even though the glamour and glory of early days may be gone.

A visit to Charleston and to the seashore at Beaufort will be worth anyone's time; and a day spent in the mountains. Unfortunately, we had only time for one. All hail, however, to Prevost and his decision to make the Charleston meeting the biggest southern conference yet. Undoubtedly, his Carolina beekeepers are going to be with him, backing it to the full.

Arriving in South Georgia, you see a change to a little milder climate,



C. L. Sams supervising a demonstration in disease clean-up.

but quite a change in that there are more large beekeepers and more queen breeders and package shippers. And for the information of other package shipping states, let me infer that Georgia is rapidly pushing to the front. Their inspection system is unsurpassed. We must give due credit to A. V. Dowling, a young man who has only been in the field a few years, but is dynamic and thorough.

Dowling suggested to me that he wondered whether all of the disease in northern states was actually American foulbrood. He seems under the impression from his own obser-

(Please turn to page 333)

The Distribution of Honey From a National Standpoint

By Harold J. Clay,

Bureau of Agricultural Economics,
United States Department of Agriculture*

HONEY reaches the consumer in many forms and through many channels. Nor is all of the country equally "honey-conscious." This article will endeavor to touch upon some of the many angles of honey distribution which confront one when considering the wider aspects of the subject.

Not many years ago the iron horse transported most of the honey that wasn't carried by horse and buggy, though the movement in carload lots has been more prevalent since the World War. Now gasoline buggies, ranging from passenger cars to mammoth trucks, are the chief means for carrying honey from the beekeeper to his market. Honey goes by truck from southern California to Seattle, from Idaho to Los Angeles, and from Sioux City to the eastern seaboard.

Truck lines have become one of the most important means of distributing honey. Many beekeepers have established regular truck routes, covering at times hundreds of miles and with definite circuits over which the truck passes every few months. This method of distribution is especially in evidence west of the Mississippi, where numerous commercial beekeepers dispose of their entire crop in this way. Drivers on truck routes report that selling a 60-pound can of honey to a farmer with a large family is often no more difficult than selling a 10 pound pail to a family in the city and that repeat orders are about as frequent. Men having truck routes often purchase honey from beekeepers on their trips to supplement their own crops, and many western beekeepers sell all their honey to truckers at their door as the easiest way of getting rid of their crops.

Yet the movement of honey by boat cannot be ignored. Even though

exports of honey have fallen off sharply the boat is still important not only for coastwise transportation, as from Florida to New York City, but also in the movement of honey from the Far West to the East Coast. New York City alone received over five million pounds of honey by boat from California points in 1936, in addition to over a million pounds from Puerto Rico and smaller amounts from Cuba, Greece and other countries.

From these comments it is an easy step to inquire what states are important commercially in the distribution of honey. What are the "export" states? In other words, what states ship out more honey than they take in? During recent months I wrote over 75 letters in an effort to find out. In addition, the arrival reports for the consuming markets published in the Federal Honey Market News Reports were carefully scrutinized.

I had hoped to prepare a chart showing the movement into and out of each state, but the returns were so incomplete and so subject to question that as one who has regard for the accuracy of statistics I decided that until more complete and satisfactory figures could be secured the returns so far received might better be hidden away in those files which are popularly supposed to contain so much good unpublished Government information. But perhaps we can bring a few of the facts out of their resting place without feeling that they are too far out of line.

First, if you were asked the leading honey center of the country what would you say? How many would pick Chicago as No. 1? Many, I expect, because of the large bottling interests in Chicago. Others would select New York because of its enormous population and its position as the nucleus of an even larger number of people within a relatively small radius.

But according to such records as we have Los Angeles deserves the palm as the honey center of the country. During 1936 it received 14,907,000 pounds of honey, and though 7,778,000 pounds were



Harold J. Clay

shipped out in the same form in which received—in other words "exported," either to other parts of the United States or to foreign countries, net receipts were 7,129,000 pounds.

New York comes next to Los Angeles as the leading receiver of honey, with some 6,600,000 pounds arriving in 1936, or 50 per cent in excess of the receipts at Chicago. And dealers and users of honey in San Francisco, Seattle, Kansas City, Cleveland, Portland, Detroit, Philadelphia and Pittsburgh are all large buyers of honey.

Naturally, few of these cities actually consume all of the honey which they receive, any more than Hershey, Pa., for example, eats all of the chocolate, almonds and peanuts that go to that point. Bottlers and manufacturers ship out an appreciable percentage of the honey they purchase. But it is estimated that Los Angeles actually consumed over 3,600,000 pounds of honey in 1936, —a larger volume than was eaten by the folks living in New York City.

Now, as we seem to be playing a question and answer game, what state do you suppose ships out the most honey in proportion to its population? Most folks would guess a western state, but I doubt whether many guesses would land on Nevada. Yet because of its light population its shipments are enough to place it at the top of the class, with 1936 shipments to points outside the state of 10 pounds of honey for every man, woman and child in Nevada.

In the manner of Prof. Quiz, however, I would have to allow 100 per cent credit for those of you who would give Idaho as the leading export state in proportion to its popu-

*This is a revision of a talk before the International Beekeepers' Conference in Washington last October. Readers know Clay as the economist responsible for our Semi-Monthly Honey Reports, which give prices, crops, conditions and market movements of honey twice each month. These reports are free and any beekeeper may regularly receive copies by asking that his name be put on the mailing list. Send your name and address to the Bureau of Agricultural Economics, United States Department of Agriculture, Washington, D. C.

lation, for Idaho also shipped out about 10 pounds per capita last year, or 5,000,000 pounds. But nearly all the western states are in the export group, and so too are some eastern and southern states like Michigan, Wisconsin, Florida and Georgia.

California, as is well known, actually ships out more honey than any other state. In 1936, out of a total production of 11 million pounds, nearly 8 million pounds went out of the state borders. So many people live in California, however, that the per capita shipment is below that of some other states.

Question No. 3—What state do you imagine consumes the most honey per individual? Here again every one is going to guess a western state—but perhaps not the right western state. My own original guess would not have been correct. If I had been asked before making this study I should probably have said, based on my recollection of earlier investigations by others, that folks in Washington or Oregon ate more honey than residents, elsewhere. And they do, according to the records, consume about 2½ pounds per capita. But the credit goes to Utah. Our figures may not be correct, but they do show about 6½ pounds consumed by every Utahan, a word which, to my surprise, I found in the dictionary. And believe it or not, the dictionary calls a resident of the state next in line, having a per capita consumption of 6.3 pounds of honey, a Wyomingite. North Dakota and Idaho are other states in which the people are large eaters of honey.

But I know that you will agree that even 6½ pounds is a small amount for any one person to eat in the course of a year, considering that our per capita consumption of refined sugar in 1936 was over 96 pounds. You will agree with that, but if beekeepers generally were asked how many of their households used 6½ pounds of honey in 1936 for each one in the home I wonder whether I could get a 100 per cent affirmative answer. No I don't wonder, because I have been in beekeepers' homes enough to know that the honey jar isn't always on the dining table nor even in the kitchen.

These large per capita-consuming states are obviously ones in which the commercial production is heavy, and in which it often pays the beekeepers to sell his honey to neighbors or to local stores at a reduced price if necessary, rather than ship to a distant market and risk having transportation and selling costs gnaw deeply into the profits.

Let's tackle the question of honey consumption from another angle. We have been talking about the states in which people eat the most honey. Now, what states eat the least honey per person? Probably every one

would point to one of the eastern industrial states. And that would be correct. It has been said that among the larger consumers of honey are immigrants who were accustomed to eat honey in their old homes in central Europe. But in spite of this Massachusetts and Rhode Island draw the doubtful honor of being the smallest honey eaters of all the states, with only .1 to .2 of a pound per capita. That suggests honey in small bottles, and it is apparently true that most people in the East, when they buy honey at all, do purchase it in bottles, and that honey in pails and 60-pound cans becomes more salable as one pursues the course of empire westward.

A corollary of these comments is that the further west one goes the more honey is used per individual. It is no doubt true that west of the Mississippi the average person eats at least twice as much honey as the average individual east of that river. I question, however, whether in small towns of comparable size in the West the consumption of honey is much more than that in many towns in the east. I expect it is about as easy to sell a 60-pound can of honey to a farmer in Ohio as to one in Nebraska. And I do believe that increasing production could be disposed of more easily near the eastern beekeepers' home than near the westerner's home because of the larger population which the former can contact.

And increasing production is going to be necessary before you can hope to make folks "honey conscious." George Demuth once remarked to me that it wasn't feasible to put on a big honey-eating campaign until much more honey was produced because the supply of domestic honey wasn't sufficient to handle an appreciably increased demand. During the past few years, when the bulk of the crop has left the beekeepers' hands before Christmas, numerous letters have reached me saying that beekeepers were turning down orders for honey because their own supplies were exhausted and because there was no more to be had in their neighborhoods. Curiously enough, I would also at times receive letters from beekeepers a relatively few miles away complaining that there was no demand for honey and that their crops were still unsold.

This season, as is well known, a good white honey has for months been extremely scarce in the central part of the country. Numerous beekeepers, looking ahead to the future of their business, have for months been buying from outside their state boundaries to get enough honey to keep their regular customers from forgetting honey and switching to corn syrup, sorghum or cane syrup.

A seasonable supply of honey is important if the advertising that the

American Honey Institute is securing at such an amazingly low cost is to be used to the best advantage. Honey must be available in stores upon call if the publicity it is getting is to do the most good.

And perhaps here is as good a place as any to say that the future of the honey industry is tied in to a larger extent than many folks realize with the expansion of the commercial packer. This is true of honey just as it is also true that the development of large packing plants for cheese and butter has increased the consumption of those products.

To be sure, there will always be a place for the careful, conscientious beekeeper to work up a nice trade in well-packed honey in both glass and tin. Millions of people will for a long time to come prefer to buy their honey directly from the beekeeper, thinking perhaps that in this way they can be more sure of pure honey. But with the increased concentration of our population in large cities, the only way in which countless millions will ever buy honey is from their local stores—and usually this will be honey packed by firms having a wide distributing system.

But the possibility of having honey available at the corner grocery at all times for those who want to buy it is a thought for the future. Coming down to earth, how can a beekeeper whose honey has all been sold, and who doesn't know where to get more, secure honey to keep his customers supplied? How can a beekeeper who can produce honey, but who doesn't have the knack of selling it, dispose of his honey?

If honey were all handled through one central marketing organization the answer would be simple. But perhaps the best answer to the question is almost as simple. It is one which I have given before and which I am going to repeat, because I don't know a better one and because I am convinced it is the only answer under the circumstances.

What is the nearest the beekeepers have to a national organization? Not the League, though it is called the American Honey Producers' League, and obviously not the Southern Conference, important as both are to the honey industry of the country. No, it's the American Honey Institute. And if beekeepers generally are in favor of the plan, and will so financially support the Institute that it can stand the added expense, there is no reason why the American Honey Institute cannot build up in its office a list of beekeepers who have honey available for sale, a list which can be kept revised and sent to those telling the Institute that they are in the market for honey. And conversely, the Institute could develop a list of beekeepers and commercial organizations who are in the market for honey which could be

sent to beekeepers seeking purchases. If lists of this kind were available only to those making specified minimum contributions to the support of the Institute, it should be a means of increasing the Institute's sinews of war. If those on these lists notified the Institute whenever they bought or sold honey, indicating their present available supplies or requirements, it would be possible for the Institute's files to be kept current.

Such a plan, handled by an Institute representative keeping in close touch with the honey markets, would aid in lessening the dumping of honey on markets already over-

loaded, would place honey where it is really needed and wanted, and would expand honey consumption by developing markets at points where little honey is now used. It would not only increase the importance of the American Honey Institute in the national honey marketing scheme, but it would in fact aid in "The Distribution of Honey from a National Standpoint,"—and this indicates that I am at least sticking to my subject.

In conclusion, I wish to emphasize my feeling that national distribution of honey with all that the phrase implies, can best be developed in three ways:

1. By increasing the domestic production of honey.

2. By increasing the packing of honey by large organizations which have a wide distribution.

3. By authorizing some central organization such as the American Honey Institute to aid beekeepers in their efforts to develop a more even distribution of honey by bringing beekeepers and honey buyers closer together. If even this point is carried out it will be one important step toward taking honey out of the class of small industries and placing it among those having stature and widespread importance.

ABJ

The Catalpa Tree as a Two-Fold Nectar Source

By Dr. J. Schiller,

Austria.

(Translated from the German by George E. King.)

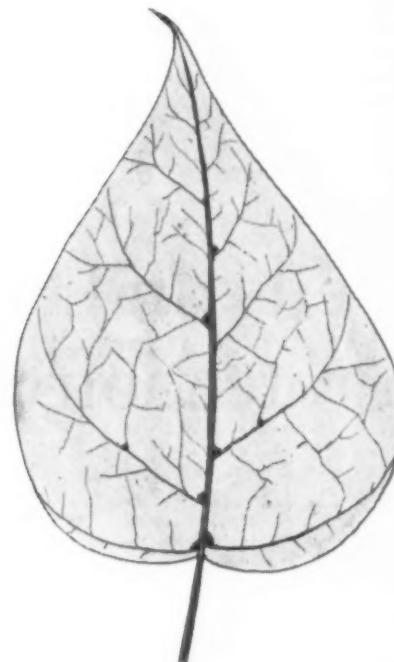
THE bees obtain honey from the nectar glands of blossoms and leaves and from the sugary excretions of plant lice. A few plants are known which also possess nectaries on the leaves the most familiar being the Vicia (vetch), many of which at times give considerable honey from nectaries on the bracts. In the temperate climates of Europe and North America, there are trees with both kinds of nectaries. The catalpa is the best known. In 1917, on the underside of the leaves of *Catalpa bignonioides* (called in Europe the trumpet tree, but native to and widely distributed in the United States) I observed bees along the midribs and the thicker branch ribs of the leaves ardently sucking nectar.

This beautiful tree has been favored for years in the warmer regions of Europe as an ornamental for parks and avenues. Its large pretty leaves cast a dense shade and it blooms in July and August when other blossoms are scarce. Nectar formation in the weak scented flowers is abundant and they are worked both by honeybees and bumblebees. It is unique, however, in that for a week before the blossoms appear a peculiar fragrance

is common from the leaves and there is an abundance of nectar from numerous nectaries on the undersides of the leaves during the entire period of blooming and for eight or ten days afterward. I have seen this in Vienna, and Professor Knoll has seen it in southern Europe.

The nectaries are on the underside of the leaves in the angles between the midribs and the side ribs, and often in the forks of the side ribs, where they are always smaller and less productive. The nectaries appear as yellowish, translucent pits in which the nectar collects in drops. The surface of these pits is occupied by close celled gland hairs (knob hairs). Under the microscope, these gland hairs, excreting a sugary fluid, appear. Each consists of the large basal cell upon which the numerous gland cells, forming the nectar secreting knobs, are situated.

The vigor of the nectar secretion of the leaf nectaries is dependent upon the warmth and humidity of both the air and soil. Early in the morning, large drops occur on the leaves which have not yet been visited by bees. The nectar also issues abundantly through the day, when two or three bees may be seen on each large nectary quietly suck-

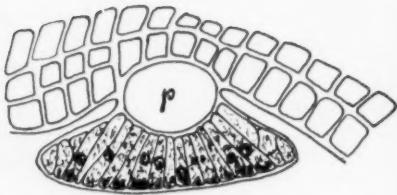


Underside of leaf of *Catalpa bignonioides*. The dark spots between the midrib and the side ribs as well as between two side ribs, are the nectaries.

ing. When examined with a magnifier during the day time, the nectaries always appear moist.

These leaf nectaries are distinct from the blossoms. The leaf nectaries are long lived and the blossom nectaries short lived. The nectar secretion ceases in the blossoms as soon as the substance causing the osmosis is washed away with water. In contrast, rain may wash the leaf nectaries without affecting the nectar secretion, so it is often long continued.

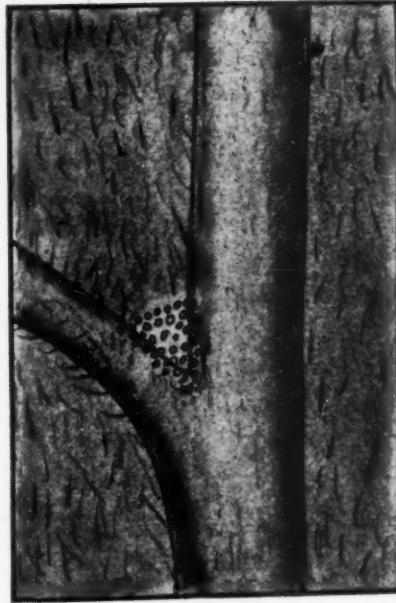
Since bees are blind to red and green, leaves do not attract them. The fragrance, however, emitted by the leaves lures the insects, and so attracts them to the leaf nectaries. As the catalpa trees are visited by the bees often eight days before



Longitudinal section through a nectar gland hair (knob hair) on the underside of the leaf; (p) the basal cell. Magnification 350:1. Partly after Knoll.

blossoming, when the trees do blossom, the foraging bees divide into two lots according to their activity, one working on the leaves and one on the blossoms. Both Prof. Knoll and myself have often seen bees pass by the large flower clusters, darting between the leaves seeking the nectaries there. In contrast, other bees were concerned only with the blossoms.

As far as we know, the catalpa trees are alone in this peculiar phenomena.



Left—Nectary with large drop of nectar. Right—Nectary with the glands. Magnification 5:1

ABJ

Veils and Armor: Their Protection Against Stings

By E. L. Sechrist,

Tahiti.

AN English correspondent who has been reading HONEY GETTING in the American, wants something on veils or armor to wear when working with bees.

I think that I have used nearly all varieties of veils, shirts, gloves, boots, leggings, and what not that have been invented; and if I were to give a short answer, it would be: "Wear whatever suits the work you are doing and the conditions under which you are doing it."

When I first began to handle a few colonies of bees, it was customary to wear a simple veil of cotton tulle or bobbinet, or one with a silk net front if clearer vision was desirable; if the beekeeper wanted to appear on dress parade, he might have a veil entirely of silk bobbinet that could be tucked into his vest pocket. These veils had a string or a rubber cord to fit around the crown of the hat and another to gather the veil around the neck under one's coat collar, or else the veil was tucked

under one's suspenders. Of course, this was in the United States. In other parts of the world, veils of other types had been designed, and I have one made with a front of woven horsehair with a leather grommet sewed in through which the wearer may smoke his pipe. The woven horsehair gives excellent visibility, is much stronger than silk bobbinet, and does not rust in a damp climate as wire cloth does.

But as I got more deeply into bee culture, I found that I did not want to wear a coat on hot days, neither did I want to wear suspenders when I worked with bees; and I also wanted a veil that would not touch the back of my neck and let the bees sting that tender spot when I stooped over. A wire hoop inside the veil helps, but I soon mislay that, or it rusts in wet weather. And so I adopted a veil which was kept away from the face and neck by tapes attached to the bottom edge and tied under the arms and around

the waist. This serves very well if the bees are not too cross.

Some beekeepers in the old days used the Globe veil having a spring wire frame which kept the netting away from the face, but it was awkward and not very popular. A little later, many beekeepers decided that the bobbinet veil was altogether too delicate a thing for a beeman who worked all day long, often among bushes and vines that soon tore a fragile net full of holes. Sometimes, too, we got that kind of a veil in too close proximity to the flame of a smoker just being lighted and an unpleasant time resulted, particularly if we wore whiskers or mustache. And so we began to use some kind of wire cloth veil, either a full cylinder of wire cloth, like the Alexander veil with top and neck-piece of muslin, or one with merely a strip of wire cloth all around, with the top and bottom of an ordinary veil attached, or the top of the veil sewed to a straw hat. Although the

collapsible cloth hat is good for occasional use, it is not satisfactory for steady wear, the crown fitting too closely on the top of the head and the wire edge soon rusting badly. It soon becomes unpleasantly soiled also.

The Alexander veil never appealed to me because of its top-heaviness. It was all right when I stood up straight, but when stooping over it fell against the back of my head unless I wore some kind of a head harness to hold it in place. This gave a lovely chance for bees to sting, so that some users applied a piece of cloth inside the back of the veil to protect head and neck, but this cloth soon becomes unpleasantly soiled and is not easily washed.

Soon the wire cloth strip of 6 or 8 inches all around the veil began to be shaped to the shoulders, deeper at the front and narrower behind, so that it could be worn comfortably and without crowding one's hat up off his head. Then someone—it was at Jay Smith's that I first saw it and Mrs. Smith made one for me—invented the folding veil of four pieces of wire cloth hinged together, and with the lower part or skirt not of close mesh muslin or khaki but of open-mesh fabric which permitted the much needed ventilation. One of the bugbears of wearing a veil is, undoubtedly, its interference with the air supply. It does become unbearably hot inside veils sometimes.

This folding veil is perhaps a little more delicate than the one piece wire cloth veil which stands rough work splendidly but it is so much more convenient to handle that better care can readily be given it and it lasts well. For general work with bees under ordinary circumstances, I believe it is the best, and it usually gives sufficient protection although there are special conditions under which nothing seems to give enough protection from an infuriated lot of bees, while at other times no veil is needed.

When I began to do migratory bee-keeping and moved bees at night, either with old hives which could not be shut up tight, or with entrances wide open, I felt pointedly the need of better protection from crawling bees than a mere veil. And that was in the days before we had "coveralls" and "talon" fasteners and such modern devices for shutting bees out thoroughly. The best arrangement I ever found for a suit thoroughly proof against the bees which crawl all over one during night work, stinging the moment they touch the flesh, was a shirt with a kind of collar large enough to put my head through, made by sewing a 15 inch ring of heavy wire into the hem of a strip of khaki about 4 inches wide, the other edge being sewn to the shirt all way around so that it stood out or rested on the

shoulders, entirely doing away with the use of buttons. The top edge of a wire cloth veil was sewed to a good straw hat while the strong rubber cord in the bottom was snapped over the wire ring, making it impossible for bees to find their way under the edge of the veil.

With this shirt and veil, and trousers belted at the waist, and with high boots or leggings and leather gloves with canvas sleeves to the elbows, fastened there with heavy safety pins, because rubber cords in glove tops soon become useless, I was able to do a night's moving of bees, or any other rough work, without getting a sting. Personally I do not like high boots but prefer canvas leggings as being cooler than leather ones, wearing them with any pair of shoes, canvas or leather, as best suits working conditions.

But now that we have coveralls fastening with talon fasteners instead of buttons it is easier to arrange a very secure armor such as is sometimes necessary, as I have said, when moving bees, when taking off honey rapidly, inspecting for disease, or at any time when one makes the bees unreasonably cross.

I never want to wear gloves except when taking off honey roughly or when moving bees. At all other times I prefer to work bare-handed and with sleeves rolled up if the weather is hot; for long sleeves tightly closed at the wrists so that no bee can enter are so uncomfortably hot that I prefer to take occasional stings. It is my experience that if one wears gloves when handling frames he unwittingly crushes so many bees that the colonies become much crosser than if one works with bare fingers. Therefore I always advise a beginner to learn to handle bees without gloves and then to use gloves only in an emergency.

It is true, of course, that there are times when no armor of any kind, not even a veil, is needed; and it is just as true that there are emergencies when the beekeeper must protect himself as well as he can against angry bees. When one has not too many colonies, and can select the days and hours for work with his bees, working only at such times as he knows they will be gentle, he can do as I often did in California in the heat of summer and the height of the honeyflow; that is: wear only a pair of trousers and a hat and veil; and sometimes the veil is needed only because one cannot be certain that he will not accidentally drop some frames or make the bees cross in some other way.

Out here in Tahiti, where clothes are scarcely necessary for comfort, I often work among my 50 colonies of bees wearing only a pair of shorts and a hat with a bobbinet veil tucked up over the brim. Even though it may not be necessary, I like the feel

of having a veil ready for use if needed. But to work without protection I carefully select times when the bees will not sting readily, and then work carefully, keeping the bees gentle by the use of a little smoke whenever needed. I have always believed that any colony of bees, however cross they were said to be, could be handled by an expert bee-man without receiving stings, by working carefully, with a smoker always ready to give that little puff of smoke which will keep inquisitive bees from flying off the frames. It is all right for them to pop their heads up in rows all along the top bars, and a little smoke at exactly the right moment, will keep them there when, otherwise, they would dart out and sting; and it is the FIRST sting that starts the trouble.

A little understanding of bee psychology helps a lot. The natives here often stand at a safe distance and watch me work. They say that I am the Father of the Bees, otherwise they would sting me, but I know, of course, that any error on my part would start them stinging in a moment. And I am sometimes scared when I begin to think what would happen should all the bees in an apiary attack me at one time. I know that I would leave immediately, and in a hurry, just as I always did at the end of a day's work in my African apiary where although a certain colony was always unmanageable, I continued to keep it because it stored more honey than any other. These African bees had the temper characteristics of the Cyprians and always required special care in handling, but that one colony, in spite of all my carefulness, was always cross and would sting through the heaviest khaki shirts and trousers. I always worked that colony last, and hurriedly and then absented myself from that vicinity as quickly as I could.

And thus it sums up to what I indicated in the beginning. Under some conditions one can handle bees without smoke or veil or any protection, while under other conditions, it is the part of wisdom not to attempt to handle them at all. In between, when most of our work is done, and because commercial beekeepers cannot choose the time when they must work, but often find it necessary to handle bees all day and every day, whatever the weather and conditions, we must wear such protection as is needed. Of course, we don't mind getting some stings, or even a good many at times, but for steady work and when the bees are not being made abnormally cross, a wire cloth veil—I prefer the kind that folds flat—worn over a hat that fits it and well tied around the waist of a pair of coveralls or shirt and belted trousers, seems to me quite enough protection. When extracting or at any other time when many bees are

likely to be crawling on the ground, I would add a pair of canvas leggings.

But for pure delight in handling these wild things, with a little bit of danger thrown in for spice, let me go out with only a smoker for protection, on a fine day when the bees are gathering nectar properly and will not rob, and take down a three

or four story hive full of bees, inspecting the comb building, rejoicing in the new honey, seeing what is doing in the brood chamber, handling frame after frame without hurting any bees, perhaps taking out the queen and making a nucleus, having frames of bees and honey standing here and there all around me. I look at the thousands and thousands of

bees humming quietly but all the time ready to pounce on me in a moment if I do the slightest thing which would, as it were, break the spell; then I put them all back together again, close up the hive and watch them settle down to work; as though no inquisitive human being had ever disturbed them. It is a great adventure.

ABJ



Molded wax figures.

HAVE you some beeswax that you have been wondering what to do with? Almost every beekeeper has, especially those who produce extracted honey. This kind of wax is usually nice golden wax too. When you sell your wax in bulk you do not get much more than 20 cents a pound, and many times not that. Well how would you like to get up to \$1.00 a pound for your good capping wax? I'll tell you how you can get this.

The first thing to do is to render your wax. Take only the golden yellow and pale yellow wax, not the dark, nearly black bits. Put this in a large container and add quite a lot of soft water. Bring this to a boil, being very careful not to let it boil over. Then strain it through a piece of fairly heavy cloth into a clean pan. The wax raises to the top of the water. When it is hard take this cake of wax and put it in another clean pan, or clean out the pan you boiled it in before, and add soft water, bring to a boil, strain, and let cool as before. It must be very pure.

\$1.00 a Pound Beeswax

By Ruth Hodgson,

Wisconsin.

The next step is finding a deep container, a five gallon cream can is ideal, and filling it about three quarters full of boiling soft water. Add a chunk of your pure beeswax and let the wax melt.

Now to dip the candles. You have to get candle wicking beforehand, of course. Do not get that soft fluffy candle wicking they sell in dry goods stores to make bed spreads of, but a sturdy wicking, like that in the candles you buy.

You must have a rack to hold your wick while you dip your candles. This should be made beforehand, too. This can be made of heavy wire. The photographs will show you a homemade rack, holding two wicks, which my father made for me.

When you tie your wicking onto your rack, tie one end and then twist the wicking before you tie the other end. This will make your candles burn evenly.

This next point seems rather insignificant but it is a **very important** step. Oil your wick. Take Three and One oil, or any other fine oil, and saturate your wicks after you have them on the rack. If you do not do this the wick will absorb some water when you dip them the first time and when you burn the candles they will spit and sputter and not burn evenly.

Now to dip! You must dip them very quickly. In! Out. Then dip again. Do not submerge the whole rack into the wax. Leave about $\frac{1}{2}$

inch above the surface each time. This will give you a piece of wick to light. I usually do my candle dipping on our back porch. I dip a rack once or twice and then hang it on a nail and dip another rack, thus allowing the rack hanging up to get quite cold. When you dip it again it takes on a thick coating of wax.

Keep dipping your racks until your candles are the size you want them and then cut them off the rack.

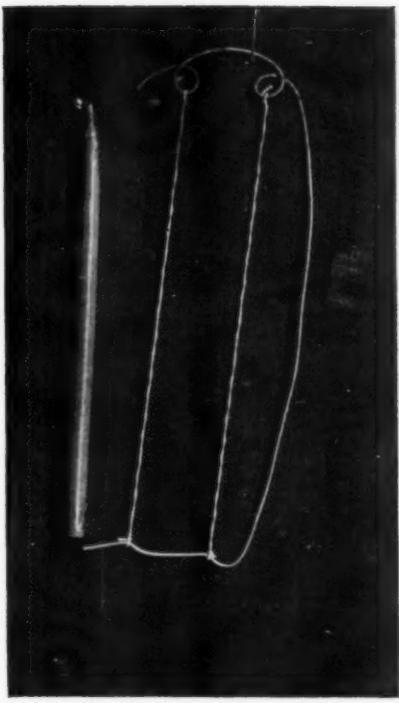
I make my candles about 15 inches long and $\frac{3}{4}$ inches in diameter. If you make them too thick the wick cannot use all the wax and they drip.

These candles burn a long time and every one seems to like their faint beeswax aroma. They are really quite easy to make. I can make two dozen in a few hours, so you see one is well paid for one's time as well as one's wax.

When my candles are cold I wrap them in cellophane. I charge 25 cents each, 50 cents a pair. Everyone is perfectly willing to pay this for hand-dipped, pure beeswax candles.

I am sure that if your honey customers knew that you had these candles you would sell quite a lot of them during a year. I know we have. They are so "different."

There is another way in which one can realize on one's beeswax. State and county Fairs usually give a prize for the most attractive ten pound display. They generally have two classes: one a ten pound cake,



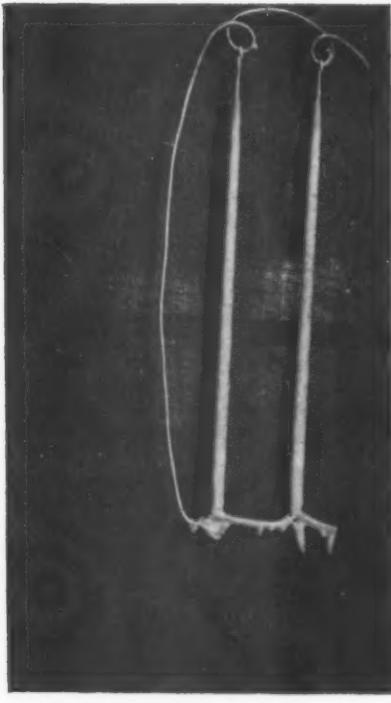
Candle making: Left—Finished candle.
Right—Wicks tied to wire rack.

and another ten pounds of wax in different attractive forms. Picture number 5 shows you a display that won a prize at a state fair.

The first step is to render your wax. Then melt some in a large pan and let it cool. When it is so cool that it begins to set around the edges pour it into your mold. Immediately put a cover over the mold and put some quilts or something like that over it. Put several thicknesses around it so as to hold in the heat. The slower the wax cools the more perfect the cake, for if it cools too rapidly there will be cracks in it. Leave the mold wrapped up for at least 24 hours, longer if necessary.

Now for the smaller odd shaped cakes. I use cookie cutters for some molds. Put a piece of wax paper on your table, then grease your mold, and pour cool wax into it. One usually has to hold the cutter down so that the wax doesn't run out. To make the ears and ears of corn one has to make a plaster of Paris mold and then grease it and pour the wax.

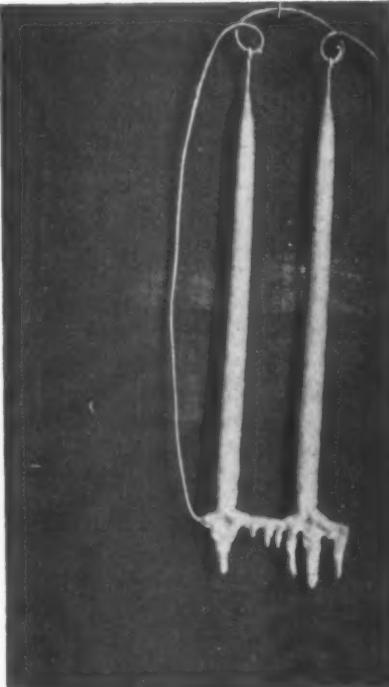
When you get your wax exhibit back from the fair put it in your honey house where visitors will see it. This will get people interested in beeswax. If you have some of your candles around it in candle holders you can make a very attractive display and you will probably sell your candles and also some of the smaller figures to be used in sewing baskets or just as ornaments. Children love these little beeswax animals.



Partially dipped candles on oiled wicks.

A Wild Life Bulletin

"Biological Survey of the East Texas Big Thicket Area" is the title of a recent bulletin by H. B. Parks, V. L. Cory and others. It is devoted to a survey of the wild life of an unusual area where a large variety of both animal and the plant species still remain in the wild state.



Fully dipped candles ready for trimming.

In a region about one hundred miles long by fifty miles wide in east Texas we have a remnant of the rich flora and fauna once so abundant in this country. It is to be hoped that it can be retained as either a national park or a state wild life refuge where future generations can enjoy the privilege of acquaintance with its riches.

The publication lists a surprisingly large variety of mammals, birds, reptiles, fish and plants as native to the big thicket. It certainly is alluring to a naturalist to learn of a spot, where such a rich variety of wild life is still to be found, ranging all the way from the brown bear to the tiny humming bird.

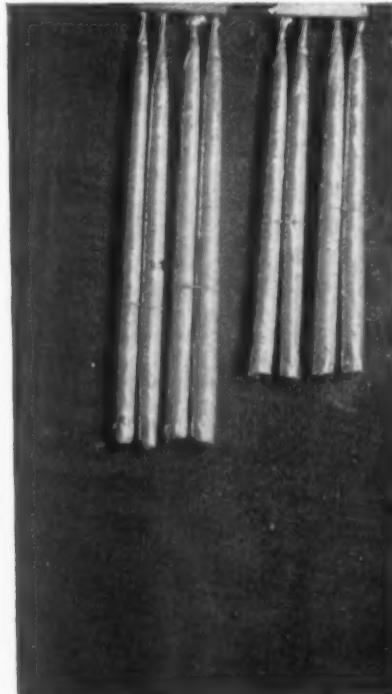
Those interested in securing copies of the bulletin should write to Don O. Baird, State Teachers' College, Huntsville, Texas.

ABJ

Painting Occupied Hives

I paint the back and two sides of each hive. When dry and not sticky, turn the hive around on the bottom and the front then becomes the back and it can be painted. The painting may be done any time when the weather is suitable. I also like to painted, as they are less apt to be propolized. I also think it well to paint the end rabbets and the top of the frames since it reduces burr combs, and the frames are quite easily removed.

John Bruce, Illinois.



Candles trimmed and wrapped.

Thoughts About Advertising

By George A. Smith,
California.

THREE are two kinds of advertising—one profitable and successful; and the adverse, injurious and business-killing.

It is a well established principle in advertising that the cost of advertising must be passed on to the consumer. If that were not so, there would be no advertising. An increasingly profitable business, depends largely on marketing a high quality product through wise advertising.

The purpose of advertising is to create demand, promote sales, increase profits, which also increases production.

A superior product of extra high quality is the cheapest for profitable advertisement, but no amount of deceptive publicity can popularize inferior products. There is no profit for the producer, the wholesaler or the retailer in a product undesirable to the consumer. Such a product sells at a loss, and certainly reflects on the producer and everyone connected with its distribution.

If this is true, then advertising and selling low grade inferior honey to the family trade is a very bad, losing practice and, I think, the only cause of the loss of trade and the unsatisfactory prices which often prevail in honey marketing.

Wheat, corn and livestock have advanced more than 300 per cent, beef 400 per cent, but honey only 25 per cent since the low point, and a pound of honey has more food value than a pound of beef that sells for 45 cents. Something wrong somewhere. [Better not compare honey, which is a carbohydrate, with beef which is a protein.—Editor.]

Selling to a consumer once, is an accomplishment, but to continue to sell to the same consumer, year after year, is a genuine achievement. Only the highest quality can bring continued repeat orders. Inferior low grades of honey are not enough inducement to hold customers even in the low priced markets and it will only lead to a loss of trade, lower price and a still less demand.

High quality in any product always makes it a sure winner, and makes advertising it profitable, but no amount of advertising is ever profitable where the product is low grade and inferior. Quality and price go together and each is a measure of

the other—high quality—high price, low price—low quality.

The process of reasoning employed by those who practice the folly of continually offering low grade inferior honey, selling it at a loss is probably about as follows: Honey costs nothing, bees work for nothing, board themselves and always gather large crops. The family helps do the work and since they require housing, board and clothes anyway, no charge should be made for their time. The producer's time is worth nothing as he never makes anything and, therefore, should charge nothing for it, so he considers anything at all clear profit, and is obsessed with the idea that he can undersell everybody, comes to town, browses around awhile to find out what prices others sell for then proceeds to sell for less. He is his own worst competitor. If he would go on a sit-down strike for six months twice a year, the rest of us would greatly appreciate it.

Inferior honey concealed in five-pound cans under a beautiful label recently sold in the San Diego chain stores retail, in well advertised special sales, at 35 cents or 7 cents per pound. In every case it was produced, packed and sold to the chain stores by the producers. This is not unusual as it is done year after year. Their expense was about as follows:

Production at 8c per lb.	.40
Tin can	.05
Packing	.01
Label and advertising	.01
Selling, delivering, carrying the account and collecting	.03
Retailers profit	.05
Total expense	.55
Retail selling price	.35
Net loss	.20

If the expenses are more, the loss is greater. This is not all the loss either as the general loss to the industry through a loss of grade and lower prices, is greater than the ones mentioned and would tend to ruin everybody connected with the industry.

If the loss per pound through such an unsound business practice is one cent and the average production is 160,000,000 pounds, then the general loss to the industry is \$1,600,000 which would pay for considerable advertising far exceeding the \$12,000

budget of the Institute. Figured at any small fraction of a cent per pound, the result is still a bewildering astonishment.

Some producers donate \$50.00 or more to the Institute and yet continue by adverse advertising, to damage themselves and the industry to the extent of \$50,000 or more, by just such practices as this.

Extra fancy honey that will score 95 is retailing at 60 cents per quart, or 20 cents per pound, while the low grade honey retails for 7 cents per pound—13 cents per pound less than the fancy honey, or a total difference of 65 per cent. If the extra fancy honey retails for 20 cents per pound and scores 95, then the low grade retailing for 7 cents would score 33 1-3 and it reflects the opinion and judgment of the producer who packs and sells it. Under our California honey law, he is allowed to grade and label it No. 1 instead of No. 33 1-3, the actual grade according to his own estimation and at his own price.

Furthermore, if all the actual expenses were deducted, not more than 3 cents per pound is realized, while extra fancy honey is selling at 8 cents wholesale, right in San Diego County "The Honey Center of the World." How much advertising will the Institute have to do to offset that injury to the business? Can it ever better the price with such a handicap?

Comb honey is selling at 20 cents for 12 ounce sections or 26 cents per pound retail, with never a complaint from the consumer about the price. It is a high quality product and high quality makes both the honey and the price satisfactory to the consumer. The price is always secondary when quality is considered and price alone has little influence on sales. The quality, if the honey is extra fancy, is remembered long after the price is forgotten.

An advertising fund of 3 cents per case of 120 pounds is urged by honey producers to the Honey Institute to advertise honey. Even with the budget available, such a source of fund will not be enough to purchase any perceptible amount of advertising or publicity. Much cannot be had for nothing. Honey producers will have to donate more liberally if they realize any perceptible benefit, and even if there is a liberal support adverse advertising must be stopped

or liberal donations will be of no benefit.

A producer who has developed a high class family trade in San Diego, spends a cent per pound for advertising, or \$1.20 per case as compared with 3 cents per case. He passes the cost of advertising along to the consumer when he sells honey at 60 cents per quart. Extra high quality is his best advertisement, and has a greater influence in making sales, holding and increasing his trade than the 1 cent per pound which he uses in advertising, and which he considers still to be insufficient.

It is a useless, nonsensical folly to create a loss on the crop year after year, by putting inferior grades of honey on the market to lower the price of the crop, including the fancy grades, which would sell for more if the price were not depressed by the low grades which always sell without profit.

If the Federal Department could discover new uses for low grades of honey in manufacturing, it would be a great boost to the industry and leave only the better grades of table honey for the consumer, create a better demand and increase the

price commensurate with its food value.

There is a fertile field for advertising fancy honey in every city as more than 90 per cent of the population does not consume honey. This can be accomplished by advertising brands of high quality, the owner of the brand receiving the profits and the entire industry benefiting through better prices. It is hard to do this, however, with the low grade honey if sold at a loss to the consumers and continues to reduce any advertising to its minimum effects and retarding business generally.

Packers, stores and retailers think it is necessary to sell at the low prices because they are forced to do so by producers retailing their honey to the family trade at 25 cents per quart and 35 cents per 5-pound can, and extra fancy, fine flavored water white honey at 30 cents per quart. This is one good reason why large buyers do not pay more for honey and cannot pay more when such conditions prevail.

Producers who have no business ability nor salesmanship have no business in business, and the result can only be failure for themselves

and depression in the industry. When anyone attempts to retail honey at 25 cents a quart, he is giving it away, receiving nothing for it whether he buys it or produces it, as the cost of retailing to the family trade is never less than 25 cents per quart when time and incidental expenses are included.

Remember that high quality is the best advertisement for honey and ranks first. Newspaper advertising is effective, reaches many consumers, as every family reads a newspaper, and so the paper gets good results at low costs, and ranks second in the advertising factor. The radio has entered the advertising field and appears to be successful where the product is nationally advertised and so ranks third.

The distribution of circulars, demonstrations, recipes, lectures and personal contact, for the individual beekeeper is too expensive for the larger advertising. Collective advertising, where the entire industry pool funds, is not generally practical. An individual business using wise advertising is the best way.

Marketing our honey is now our greatest weakness and this phase of our \$10,000,000 business should receive careful, thoughtful attention.

ABJ

A Harmful Broadcast

By Rex M. Hess,

Washington.

WE have noticed various wrong statements of a minor nature about bees. A recent broadcast from the National Broadcasting Company, released from Chicago, entitled, "Science in the News" was devoted to beekeeping and discussed races of bees and wonders within the hive, and was conducted by a prominent staff commentator. His comments of these subjects were amusing, and although misleading, were harmless.

However, his discussion of diseases, was serious, and bound to hurt. He said that while the keeping of bees is older than man, a great menace threatens its existence because unless a remedy can be found, beekeeping will soon be a matter of history. This malignant disease known to beekeepers as foulbrood is so devastating and rapid in its growth that even strong colonies will be completely destroyed within a few

days. He goes on to say that both local and Federal agencies are doing everything in their power to find some method of control, but, because the disease is hereditary, they are greatly handicapped and cannot expect to make much progress by selective breeding. Their only hope lies in the form of serum since this disease is strictly a product of the queen.

While he does not openly state that honey from such colonies might be unfit for human consumption, he leaves the impression that perhaps honey from them should never reach the market.

Comments like these, coming from an apparently reliable source, to such a vast audience will not only cause alarm but will reflect on the healthfulness of our product. We all know about disease, and its discussion has for a large part been confined to the pages of our own publications, and

we have always been careful to shield it from the public as much as possible. But a broadcast like this, full of blundering and misinformation, probably has already done much to destroy splendid work like that of American Honey Institute. It will, no doubt, appear in this current season in the form of a strong sales resistance.

There are thousands of beekeepers like myself who make every effort to keep their bees and equipment in good condition and pride themselves on cleanliness. I know of no greater satisfaction than a completed season with bees and equipment in good shape and a fine supply of honey worthy of the name. A protest should be presented to the sponsors of this program and an offer should be made to furnish reliable information whenever they need it in the future.

Rembrandt Used Beeswax

By J. T. MacMillan,

New York.

REMBRANDT VAN RIJN, that is, Rhine, is a name conjuring up a mind's eye picture of quaint windmills with sails slowly flapping; and broad, pleasant meadows, blanketed by small, Dutch pasture clover, surrounded by sturdy dikes withstand- ing the almost intolerable pressure of angry seas. And to me, recalling

the picturesque, annual bee-skep auction at Amsterdam.

Then too, the artist before an easel in a darkened, musty mill room as he paints picture after picture in a new light-struck method. This Dutchman was an innovator, shocking the staid, conservative art critics of the 17th Century. Little is known

of his life, while much that we do know has been greatly distorted.

Due partly to the recent moving picture, the name is known throughout the world as that of a painter in oils, famous for his untiring vigor, his unmatched success in depicting life. With his hitherto unknown treatment of everyday light on canvas, this simple son of a stolid Dutch miller became one of the world's foremost artists. This, then, one reason for his fame; the cinema merely spreading it to people unable to see his masterpieces personally.

Another more interesting reason, to beekeepers, is found in his incomparable etchings, said by experts to be the world's best. Here, Rembrandt excelled in every known form of this graphic art, and in a few unknown to his time.

This art frequently has been called the poor man's. Contrasted to the hundreds of thousands of dollars brought by Rembrandt's oil paintings, genuine impressions from his etched plates sell for much less. Accordingly, they are spread out over the globe much more uniformly enabling millions to benefit by the work of this genius.

For example, recently the Alden Gallery in Kansas City bought for \$10,500, a second state impression of the famous etching, "Christ Healing the Sick." A similar painting of Rembrandt's would be worth in the neighborhood of a quarter of a million dollars, and could be seen at but one place, whereas there are in existence a large number of prints of that particular etching.

Etching is the art of drawing through a film of beeswax, onto a metal plate, with the purpose of reproducing a number of prints, or black and white reproductions. On the completion of a steel or copper plate drawing the metal plate is "backed" with additional beeswax, or shellac varnish. It is then placed in a bath of nitric or hydrochloric acid.

Where the etcher's needle has removed the delicate beeswax ground, the acid bites into the plate. When this corrosive action is completed the plate is taken out, and the wax removed. A print or picture—made with a special hand press—at this time would be called the first state



Street in Amsterdam where Rembrandt lived and worked.



"Three Trees," Rembrandt etching. A pastoral scene near Leyden, Holland.

trial impression. By repeating the process described, alterations are made, bringing the etching to higher stages of perfection, called second, third and fourth state impressions.

The never-tiring Rembrandt spent months on some of his etchings, of which he created more than three hundred. Considering endless effort he exerted in making each one perfect, it is easy to understand the reason for his continued use of beeswax in etching ground formulas.

The lightest touch on the beeswax film, and there are tens of thousands in an etching, made the difference between a valued work of art and an everyday, schoolboy sketch. Also, any natural defect in the beeswax film permitted the destructive acid to eat out metal where none should be removed.

Temperature changes should have no effect on the workability or ductility of the film. At all times, the film should have a perfect, even consistency through which the needle can cut sharply and smoothly, leaving no rough edges or cracks running away from the etcher's lines. Natural "crackle," or minute hairline cracks common in more brittle waxes, make adulteration impossible in etching ground formulas.

The ground must also stick firmly, without peeling or blistering, and be tough enough to resist rough handling.



"Christ Healing the Sick" in Metropolitan Museum of Art, New York. An etching by Rembrandt, considered one of the finest ever made.

Finally, the artist's laborious efforts went through an acid test of perfection. So the base of Rembrandt's etching ground was bleached, virgin beeswax, to which he added some asphaltum and pitch. One of his grounds is still recommended in art circles as the best procurable. It consists of

Virgin Beeswax—probably cappings—1 oz.

Mastic $\frac{1}{2}$ oz.

Asphaltum $\frac{1}{2}$ oz.

Another called for equal quantities

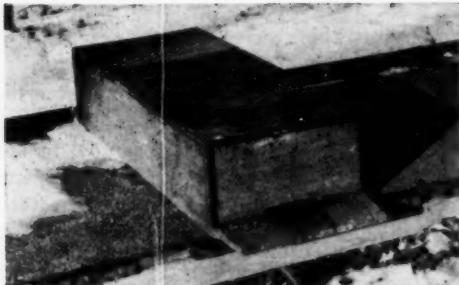
of Burgundy pitch, asphaltum and virgin beeswax. The ingredients are mixed together, boiled several times, and then poured into warm water to set.

Some commercial grounds made today, use a mixture of paraffin or ceresin, and beeswax. But when well known artists like Whistler turn to this medium for expression, they make their own grounds, using beeswax.

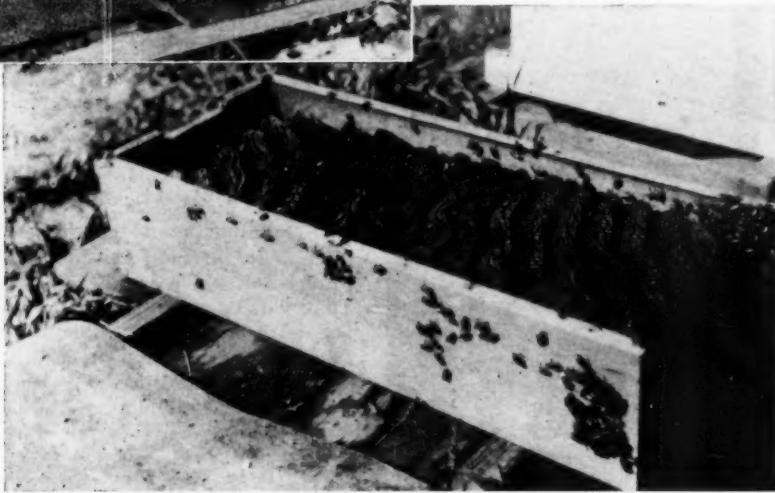
Here, as in many other fields of artistic endeavor, the use of beeswax is so small as to appear to the layman as insignificant. But without it, Rembrandt would have been hard pressed to turn out the masterpieces of art for which he is so famous. That today's artist turns to beeswax, not only in etching, but in many other of the fine arts, is vindication of age-old veneration for the high quality of the products of the honey-bee.

Expanding Brood Downward

I add all room for brood expansion under instead of on top. Many do not think this is the thing to do. I think it saves chilled brood in poor weather, since heat goes up, and if a second body is added underneath, the bees expand into it only when they really need the room; and when it is placed above, they will go above before there are sufficient bees to take care of all of the brood during cool weather. John Bruce, Illinois.



Two pictures of the Carniolan hive.



Carniolan Hive

The two pictures above are of the Carniolan hive. The dimensions of the commercial Carniolan hive are $27\frac{1}{4} \times 11\frac{1}{2} \times 6\frac{5}{16}$ inches. The form of the hive was described by the Italian, Calumella, in 50 AD. The great Anton Jansa originated a hive somewhat larger, still used today. Jansa, in 1770, was appointed by Empress Maria Theresa to be the first teacher of Apiculture in Vienna.

Primitive hives, without combs, are still to be found in Carniola but modern hives are now more common, like those of the celebrated Alberti Znidarsich shown at the bottom of

the page, with the picture of the bee house.

The greatest business in Carniolan bees is done by Jan Strgar at Bitnje Bohinjska Bistrica where, from his apiary, Carniolan queens have been sent to all parts of the world. Strgar has been awarded eighty-five honors for contributions to beekeeping. Among 650 contestants in Belgrade in 1934, Strgar received the grand prize and gold medal.

John Ferlin,
Illinois.

[Many countries are becoming partial to Carniolan bees. Not often



A bee house.

used here, there are a few breeders, however, who offer them for sale. We have tried them. They are much like the Caucasians and yet they are not given to the excess use of propolis. The workers are quite gentle and the queens prolific. Without close management, they may swarm badly. Later we will have an article giving the results of comparative experiments with the three best known races, Italians, Caucasians and Carniolans—Editor.]

ABJ

A Book on Honey

At last we have a book on honey. "Honey and Health" is the title of a book of 272 pages by Dr. Bodog F. Beck, well-known author of the volume, "Bee Venom Therapy." It is a beautiful volume with many unusual illustrations, published by Robert M. McBride & Co., New York. The price is \$3.00.

One hardly knows where to begin a review of this unusual volume. There are so many interesting items in its pages that one is tempted to quote at length from nearly every chapter. The honey producers are fortunate in the publication of such a volume. They should show their appreciation by calling it to the attention of the local library and asking that it be included in the next list of books to be purchased.

Dr. Beck has brought the experience of a long life in medical practice to bear on the subject of honey and its place in the diet of the public. He says: "The culpable disregard of honey as a food and medicine is a grave and lamentable error of the present generation and a sad reflection on its intelligence."

The chapter "Honey vs. Sugar" is a most illuminating discussion of cause of many present day ills. One is startled to read that laboratory experiments have proved that animals live longer without food of any kind than when fed on white sugar and refined flour. On the other hand we learn that "honey and other simple or natural sugars, like that in dates, figs, raisins, etc., are live physiological sugars which contain the germs of life." In contrast refined sugar is described as dead sweet.

Every wide-awake honey producer will do well to read the chapters "Nutritive Value of Honey" and "Medicinal Value of Honey" and consider what it will mean to beekeepers when the public comes to realize the truth. Once let the contents of this book become known to the general public and the amount of honey now produced will fill but a small part of the demand.

Space will not permit a discussion of the many interesting items concerning the use of honey in cosmetics,

in surgery, in beverages and many others. One must read the book to appreciate the extent of its usefulness.

Part two of the volume is devoted to the history of honey and here one finds a vast amount of information not readily available and which is worthy of an extended review by itself.

We can think of no better way to stimulate a demand for honey than for the beekeeper to buy copies of this book to lend to any who will read them. Copies may be had from the publishers or from this office at three dollars each. F. C. P.

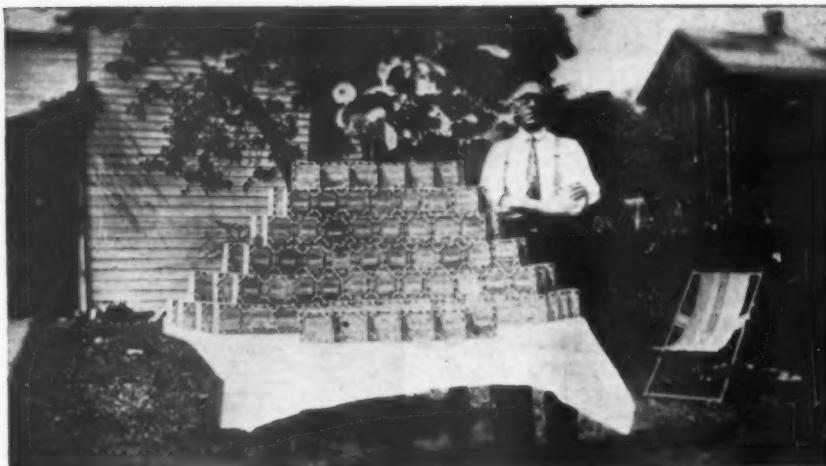
ABJ

Are You Going to The Fair?

Although it is only the first of July, it is not too early to begin plans for honey exhibits at fairs. American Honey Institute extends to all exhibitors an invitation to take advantage of the service it is able to give in connection with planning honey booths and providing literature for distribution.

State and county fairs are such excellent places for contacting the public that honey producers should, if possible, arrange exhibits at these places. Beekeepers' associations could profitably adopt fair exhibiting as a part of their programs. This type of advertising is probably as cheap as any when it is considered that there is opportunity to contact hundreds and thousands in a personal way. However, this is easier said than done unless the exhibit is set up and maintained to appeal to the visitors. For ideas, study displays in stores and store windows and arrange the booth with this purpose in mind—to SELL HONEY whether or not it is actually sold at the booth. Put SALES APPEAL into the booth.

The booth need not be elaborately decorated; in fact, it is much better to make the decorations just as simple as possible, yet artistic. They should form the background for the honey and not be so emphasized that the visitor sees decorations and no honey. A large number of pails, jars, and combs is not necessary for a successful display, although massive displays, if they are set up properly, are very impressive. A small display, well arranged, will have more sales appeal than the other type poorly done. A well lighted exhibit is very important—make it easy for people to see what is in the booth. Honey shows up well under good light. Then, over and above all, be sure



Record Crop of Comb Honey

HERE are snapshots of myself and a display of 160 sections of honey produced by one colony. Almost every section was passed as fancy, only a few weighing as little as 14 ounces, most of them running from 15 to 17 ounces.

I am sorry I could not include the production of another colony which had 144 sections. These bees had never swarmed. Edw. Harden, Pennsylvania.

that everything about the booth is CLEAN. Put yourself in the visitors' place and look at the booth and yourself with a very critical eye.

Another worthwhile undertaking is a booth where honey cookery can be demonstrated. Such a booth should be in charge of someone who KNOWS honey and how to use it. Include a display of honey-made products but take care that they are of good quality and of high standards. There are standards for judging cookery just as there are standards for judging architecture and cattle.

American Honey Institute, Madison, Wisconsin, has available a demonstrator's outline free of charge. There also is available suitable literature for distribution. Write for samples and prices and be sure to ask about the SPECIAL FREE OFFER on the leaflet, It's a Honey, which contains a dozen all-honey recipes and is excellent for use at fairs.

* * * *

Watch the mail for your copy of Institute Inklings which will be out soon and which will bring details on the Honey Recipe Contest and Honey Harvest Week that you will not want to miss.



Manitoba Figures

Manitoba, during the past year, had the heaviest honey crop of any of the provinces, according to figures issued by the Dominion bureau of statistics. Production totalled 6,748,550 pounds, as compared to 8,135,000 in 1936.

Although the number of bee colonies increased to 391,350 throughout the Dominion in 1937, from 370,800 the previous year, the total honey crop was estimated as only 21,700,000 pounds, compared with 28,200,000 in 1936. Heavy losses of bees during the winter of 1936-37, winter killing of clover and unfavorable weather conditions are blamed for the reduction.

F. H. Fullerton,
British Columbia.

Bees in a Wall

Thos. H. Rownes, of Walla Walla, Washington, sends this unusual picture of a colony of bees found in the wall of an old house which was being torn down. He says: "I have taken bees out of many out-of-the-way places in Florida, Nebraska, Iowa and Washington. It is often reported that such colonies yield a 'tubful of honey.' Yet this was actually the largest one I have obtained in that way, seven feet from the plate to the bottom and considerably over a tub of honey, with honey left to carry the bees through the winter. They had a black queen but have done nicely."

Bees seem to be capable of making a home almost anywhere there is place and purchase for comb building, on limbs of trees, in old utensils like wash boilers, washing machines, bureau drawers, in tree trunks, eaves,



attics, well holes. It would not be a surprise if they made combs in our old apiary overalls should they be hung where they would be available.

Many beekeepers take advantage of this to decoy swarms seeking a new home. Old hives or boxes, fitted with discarded comb and some foundation, and placed in tree crotches often attract swarms. We have found it to be helpful to put a small cotton ball in the back of the box, with the cotton scented well with anise oil. Bees seem to catch the odor quickly and scout bees often come to these decoys when looking for a place for the swarm which will later emerge from the hive.



Lemon Vine

This is *Pereskia aculeata*, known locally as lemon vine, one of the leaf bearing cacti, growing to be a large, thorny vine or shrub. Because of its robust growth it is often used as an understock on which to bud other flowering cacti. The name, lemon vine, comes from its resemblance to the thorns and leaves of the lemon tree. The bees go wild over it the few days it is in bloom. The picture is only a part of the whole plant

which was almost a solid mass of creamy, heavily fragrant blossoms.

It produces a large amount of nectar and a bee can get a load from two or three blooms. Thousands of bees visit it at once and their furious buzzing may be heard at some distance. When I cut blossoms to take to the house, the bees follow as though reluctant to give up their quest. The picture was taken at 7:30 A. M. with a Dolly candid camera, at three feet, lens opening f:4.5, 1/25 second exposure.

A. I. Brown, Florida.

ABJ

Valuable Book on Fruits

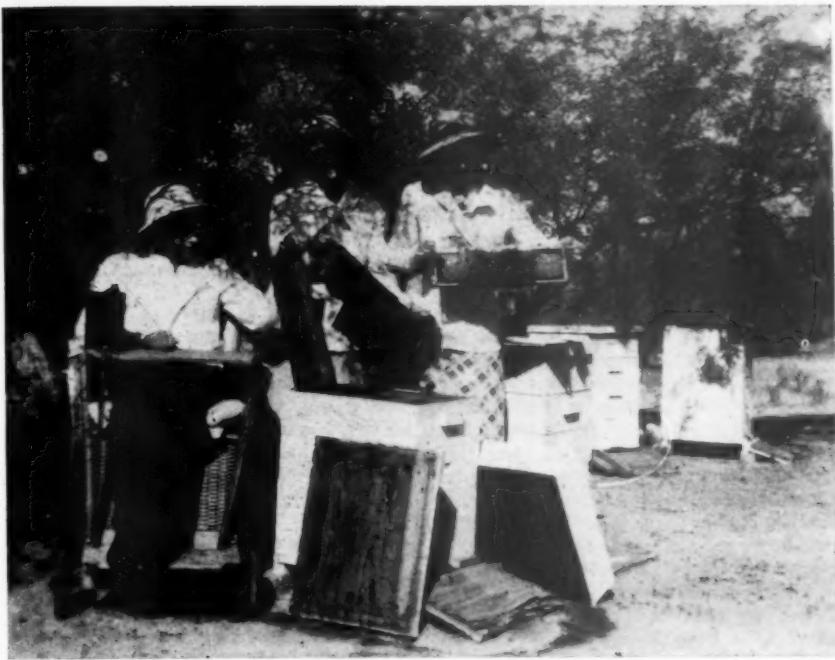
"Principles of Tree and Small Fruit Culture" is a new, illustrated, 170 page book by Victor W. Kelley, Associate Professor of Horticultural Extension at the University of Illinois. As its name signifies, it has to do with the growing, gathering, and marketing of fruits.

The importance of the fruit industry in the United States is shown by the fact that in 1935 over 473 million dollars' worth of fruit was sold.

The divisions of the book deal in order with the planting of fruit orchards, classes of fruits and their characteristics, dietary use and value of fruits, how to plant and propagate, plant growth and plant structure, effect of weather, pruning of deciduous fruits and small fruits. Also considered are soil management, problems in fruitfulness, pest control, harvesting, grading, packing, and marketing of fruit. All types of fruit are taken into consideration except the citrus fruits of the South.

Of the honeybee's part in pollination, Mr. Kelley says: "Research shows that deciduous fruits are for the most part insect pollinated and that the bee is the principal pollinating agent. Therefore, the presence of bees at blossom time is necessary for a good set of fruit whether a variety is self-sterile or self-fertile. Since unfavorable weather so restricts bee activity, and most fruit regions more or less frequently have such weather during bloom, it seems the part of wisdom to make a definite provision for bees and not depend upon wild bees or those of neighbors for pollination. Many growers, who do not care to own bees, rent them during the period of bloom. Investigation shows that one hive per acre of orchard will provide adequate pollination."

The book is, on the whole, very interesting and instructive. It is published in mimeograph by the Burgess Publishing Company, Minneapolis, and the price is two dollars.



of each chapter are some "Things To Do" which include questions, exercises, experiments, and outdoor activities. "Today's Agriculture" is published by the J. B. Lippincott Company, Philadelphia. The price is \$1.40.

ABJ

Orange Voyagers

Here in Florida, the early crop in my apiary was caught in sacks. The heaviest orange flow in years started February 1 and of course my field workers were old bees, most of them too old and heavily loaded to make it to the landing board, so they would dash underneath the hive or fall exhausted in the grass.

By pinning on the aprons of sack-ing shown in the picture, thousands of heavy loads of honey were saved and the combs filled quickly in spite of the small amount of brood. The aprons must be removed when possible before the ants appear, since the

Wheel Chair Beekeeper

In 1932, being totally disabled with arthritis, I was advised to seek a warm, dry climate for my health. We moved to Arizona. In 1934, the owner of the ranch where we were living reported a swarm of bees in a dead cactus nearby. After some coaxing my wife and daughter said they would try to get them for me. They succeeded and that was our start. We have four colonies and great plans for the future. This year

(1937) with a light flow, our four stands made twenty gallons of extracted honey and twenty-three sections, with plenty of winter stores.

I get much pleasure out of the bees. Soon I will have an observation hive so I may study them more. I have no use of my legs or right arm but can still use my left arm some. Thanks to a good wife and daughter I am well care for.

Walter L. Smith, Arizona.

ABJ

Some Agricultural Books

"Agricultural Arts," by Eugene Davenport, Dean Emeritus of the College of Agriculture of the University of Illinois, and Aretas Nolan, Head of the Department of Agricultural Education in the same institution, is a new book which has been recently published. It describes the development of agriculture from primitive times, tells the story of the domestication of animals, and describes the proper qualities of good livestock. Further sections are devoted to discussions of problems of the farmer, helps to good farming, choosing farming as a career and the book concludes with suggestions for home projects in agriculture.

The book is intended as a text in elementary and secondary schools, but it is interesting reading, too, for the adult. It is published by the Garrard Press, Champaign, Illinois. The price is \$1.75.

"Today's Agriculture" is another new agricultural book, well illus-

trated, written by Carsie Hammond, Head of Department of Agricultural Education, University of Kentucky, Ralph H. Woods, State Director of Vocational Education. The text covers all phases of agriculture integrating it with the natural and social sciences and emphasizing the aesthetic value of farming—the opportunity which farming offers to create beautiful and healthful surroundings in which to live.

General science and nature study are considered in their relation to farming. Further discussion tends to impress upon the student the importance of agriculture in our present economic system and to show how farm and urban interests are related—the interdependence of city and country. Outlined are the vocational advantages of, possibilities and requirements for success in farming.

There is a history of the development of the Future Farmers of America and 4-H Clubs. At the end



ants use them to make contact with the hives. If you look closely you can smell the orange blossoms.

Walter Tietjen, Florida.

This is a novel alighting "board." Perhaps, with ants to worry, the usual kinds of stands with regular boards are not so serviceable. In our own yards, we do not use a stand or an alighting board but either treat our bottom boards to prevent decay or set them, treated or not, on squares of corrugated metal which extend enough in front to keep down the grass. Often we fold up the packing paper when unpacking in spring and lay heavy squares of it on the ground under the hive bottoms. Ants would make a change in this practice.

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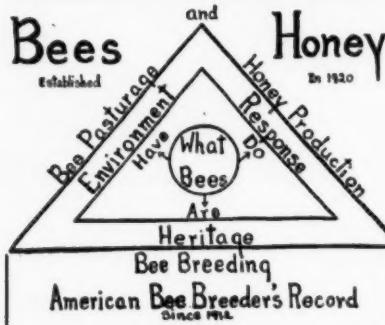
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RALPH BENTON, Editor
RIVERA, CALIFORNIA

All Around the Bee Yard

By G. H. Cale

AUTOMOBILES make it possible to do many things in beekeeping today which were impossible only a few years ago. Bees may be kept close at home where it is easy to work with them previous to the honeyflow so that every colony is in the pink of condition just before the flow is to be expected. Then, with an automobile and the hard road, the bees may be moved any distance within operation reach of the beekeeper so that the pasture selected may be the best the season offers. If supers are put on the bees promptly in their new location as soon as the flow starts, it is seldom necessary to do much more than to see that there is room for the honey until the bees are brought back home.

— o —

MIGRATORY beekeeping seems, therefore, to be here permanently and it would not be wise to attempt to destroy this chance for the beekeeper to improve his circumstances. There is much talk about regulation to prevent the movement of bees with restrictions, and that is probably a good thing provided the regulations adopted as uniform between states do not make such demands that beekeepers are no longer permitted to seek the most suitable pastures for their bees.

— o —

THREE is another side to migratory beekeeping, however, which is not liked, and that is the lack of respect which many beekeepers have for each other in selecting locations. Every beekeeper who moves to a new place should try to respect the rights of others who may already be in the location he would like to occupy. There is no law to prevent beekeepers from encroaching on each other's pasture rights, but disregard of this long time ethic of beekeeping has lead to much dissatisfaction, recrimination and not infrequently to bitterness which is reflected in a more serious manner within the industry itself.

— o —

WE had a strange experience yesterday when going from home to an outyard along the hard road at about 45 miles an hour with a load of supers. The driver remarked about a lot of "bugs" crossing the road. We ran directly through

the middle of the "bugs" which turned out to be a swarm of honeybees. The bees hit on the windshield and gave up their loads of nectar, leaving a streaming mass of liquid on the windshield. The first time I have heard of beekeepers running into a swarm of bees crossing a hard road.

— o —

McNAY is raising queens. This is perhaps not an intelligent statement without explanation. McNay is a young man, a graduate of Kansas State College, with two years' experimental training under Dr. L. R. Watson, and two years' practical work with southern queen breeders. He is now in California raising queen bees, the parents of which are selected for instrumental insemination, the first of its kind in beekeeping. We have been getting some of these queens. They are queer looking creatures with their various colored markings, and yet from them something may be found which is of exceptional value.

— o —

MOST beekeepers buying queen bees from breeders are failing to get the most out of their association. Most breeders are willing to have customers select extra good queens to be returned to them. If these particular queens are of unusual merit after being tested by the breeder himself, most customers can arrange to get daughters from them for their own use the succeeding season. If the breeders and their customers persist in a program of this sort, it should result in some outstanding stock, which would be available for breeding purposes.

— o —

THE honeyflow this year is about to make up for a number of poor seasons in most of the clover belt. The first of the flow is unusually heavy, and the amount of Dutch clover is also surprising, coming as it does after the short seasons the past few years. The clover seems to be spreading and growing. It blooms steadily so that the period of the nectar flow should be lengthened considerably over normal. Wherever there is sweet clover also, the prospects of honey are unusual.

The amount of white Dutch clover is not consistently the same, but

seems to be unusually good in some places and not more than normal in others. There is a chance this year in the river territories that the summer flow and the fall flow will merge, so beekeepers should be prepared to take off the white honey before the fall honey starts if that is possible. Sometimes, this is hard to do.

— o —

A POINT in illustration comes from our own experience last year when, at the beginning of the bloom of fall flowers in one apiary, one colony was found to be storing honey in supers which was very plainly from sweet clover. Another neighboring colony in the same yard on the same day was also putting honey in supers which was very plainly from fall flowers. So this yard that day was gathering from both sources, and it would be very difficult, indeed, for a beekeeper in these circumstances to separate the honey to any advantage. It was all fall honey as the subsequent sale of this particular crop proved.

— o —

WHY is it so difficult to introduce queens to a producing colony in a heavy honeyflow? Perhaps it is because of the confusion and the consternation which an unusually heavy intake of nectar seems to bring to the average productive colony. Bees coming in from gathering flights over acres of clover on a good honey day bring in surprising amounts of nectar which must be disposed of as quickly as possible so that a return may be made to the fields. The nectar is, therefore, deposited in any empty place, in burr combs, in drone cells, in worker cells, with eggs, with larvae, or in cells with pollen, anywhere there is a place to put it. It is later picked up and moved, but during this confusion oftentimes the poor queen is off in one corner wondering what it is all about. Under such circumstances, it is hard, indeed, to take an old queen out and put a new one in.

We have found that the best time to put in queens is early spring, late fall, or at the very beginning of any main honeyflow. At other times requeening for us is difficult with the usual methods.

— o —

TO requeen colonies in a producing honeyflow, however, there is one way which seems always to work if the queen of the colony can be found. A nucleus containing the new queen laying on the combs may be placed in the center of the producing colony by removing some of the combs from the colony. This queen so introduced will continue to lay without interruption and the brood and bees supplied by the nucleus seem to put the colony itself into a vigorous pro-

duction which the original colony did not have. Newman Lyle of Sheldon, Iowa first showed us his way of doing this and it is certainly a good plan.

— o —

DURING the height of the honey-flow many beekeepers miss a good chance to have new combs drawn either for supers or for brood nests. Whenever bees are whitening and adding new wax rapidly to combs being occupied by new honey, then may be given the task of drawing out nice even combs for later use. A good supply of new combs is a handy investment the next season to replace poor combs to make increase, to replace winter loss, or otherwise to maintain the equipment in a state of efficiency.

ABJ

We Continue South

(Continued from page 316)

vations that many border cases are treated by bee inspectors in the north as American foulbrood; when they might have been only European in its worst stages or perhaps the newer para-foulbrood which occurs most frequently in Georgia and Florida.

Georgia in its northern section still resembles the Carolinas in its honey flora, but its southern parts gradually dip into the partridge pea, the tupelo, the summer farewell and other blooms like the saw palmetto typical of the area.

Here we found some of the commercial breeders with an "anchor to windward" in commercial honey producing yards so that should the bottom fall out of the package business, they may be in a position to seek remuneration in producing. Perhaps just a patterning after that old adage, "Don't put all your eggs in one basket."

Completely away from the high areas, Florida extends over a great territory. Its climate is almost temperate in the North and semitorrid in the South. Her rich areas are restricted, her desert areas covered by millions of palms and palmettos.

Here again I was pleasantly surprised to enjoy the taste of palmetto honey. My earlier recollections had been of a very inferior quality. Orange, tupelo, mangrove, we know to be of high quality. Palmetto, while hardly of their quality, is yet to be classed as good table honey.

Genial Bob Foster, who has spent many a heavy day in weeding out the occasional diseased colony, comes as near as anyone I know to having a real working organization. The inspection work and particularly their exhibit at the Tampa Fair are noteworthy. In fact, I think their honey exhibit this year would challenge that

of any other state anywhere. The Florida folks seem to be happy to make a feature exhibit and perfectly willing to pass around the glory that comes from the blue ribbon prizes. Probably that is why the honey fair is such a success.

And northern beekeepers are to be found everywhere. At the Largo meeting there were beekeepers from outside the state who owned in excess of 8,500 colonies of bees. The Largo meeting was a good meeting. Plans are being made for next year for a Winter Beekeepers' Round-Up at Largo immediately after the Tampa Fair. If the native beekeepers respond and the out-of-state ones are generally notified, we see no reason why a great assembly like that of the Summer Round-Up in Indiana cannot be expected.

No use to dwell on Florida's sights. To mention a few would be to slight many. But one needs more than two weeks to see more than a smattering of the interesting things from St. Augustine to Miami, and from Tallahassee to Fort Myers. The trained fish at Wakulla, the try at deep sea fishing at Delray Beach; various visits to orange groves, seashores, bee locations, all were done with various good hosts among the beekeepers.

Mrs. Dadant and I were both struck with the entrancement of Florida's fine regions, as well as the vastness of her untilled palmetto covered acres. Such a trip makes one look back with pleasure, and the acquaintances made or renewed makes us doubly glad that we are beekeepers.

ABJ



**Flighty
Sez:**

That surprise birthday party the county beekeepers gave me last Wednesday night turned out to be a blow-out.

Things were pretty dead when we sat down to supper. Then, because Ma insisted it was proper, I began to cut the six big cakes the fellows had brought. The second was a beautiful thing, all white frosting, pink candy bees and clover blossoms. When I speared the center of it with the knife, I must have looked white as a ghost. Anyhow, I darn near fainted.

From then on, the lid was off thanks to somebody. But I'd still like to know who packed that cake with dry flour and toy balloons.

Meetings and Events

New Organization—North Central States State Apiarists

This is the name of a new organization recently perfected at Columbus, Ohio, in connection with meetings of the North Central States Entomologists. The organization hopes to bring about a uniform set of regulations pertaining to inspection and the interstate shipment of bees. A summarization of the apiary laws in the different states as well as Canada is being prepared and will probably be presented at the next meeting. Vester E. Mock, Inspector of Apiaries, for the state of Michigan, is secretary-treasurer. The meetings of the new organization will probably be held in connection with the International Conference this fall, and also with the North Central States Entomologists in March of 1939. The Chairman of the new organization is R. L. Parker, State Apiarist, of Kansas; vice-chairman, C. A. Reese, State Apiarist of Ohio.

Resolutions Adopted March 4, 5, 6, 1938

Resolution No. 1—The assembled group of apiary inspectors recommend that the law in the Central States be made as nearly uniform as conditions will permit, so that a complete area cleanup policy may be followed, and that all infected materials be burned as is now the recognized prescribed method of American foul-brood eradication.

Resolution No. 2—For all interstate shipments, a copy of the inspector's report be submitted to the state of entry by the officer in charge of inspection in the state of origin.

Resolution No. 3—That no certificates for interstate movements be issued or recognized upon sworn statements made by the beekeeper in lieu of a bona fide official inspection.

Resolutions No. 4—It is also recommended that the present postal regulations be amended so that the shipment of bees and queens through the mails can only be done on a bona-fide inspector's certificate. At the present time such bees and queens can be moved on merely a sworn statement that the contents of the food in the packages has been boiled in a closed vessel for a specified time.

— o —

On to Charleston!

Standing proudly in Charleston,

South Carolina, where the Southern Beekeeping States' Federation meets November 28, 29, and 30, are buildings which remain as monuments to the men who more than two hundred years ago erected them. They stand there, stately as you please—survivors of the Revolutionary War, the war between the states, and an earthquake.

We believe that from the roof of Charleston's tallest building, which is only twelve stories in height, that one can look upon more historic spots than from any other point in the United States. For, there is scarcely a foot of land in or near Charleston that has not played its part in the shaping of American history.

Charleston, within the past decade, has become one of the principal southern resort cities. Since before the days of the American republic the "city by the sea" has been noted as an excellent port, as a cultural center of what is now known as the "Old South," and as a city of beautiful homes. I don't believe a single beekeeper who comes to Charleston to attend our federation meeting will be sorry that he took the time and spent the money to attend our meeting, rub shoulders with beekeepers from all over the South, and drink in the beautiful scenery and antique buildings of Charleston, South Carolina. Ned Prevost, Chairman Program Committee.

— o —

Piatt County (Ill.) July 17

There will be a meeting and picnic of the Macon and Piatt County Beekeepers' Association on July 17.

Everett V. Evans,
Vice-president.

— o —

Newport Round-Up

The Fourth Annual Round-Up of Illinois-Indiana beekeepers, remember, is scheduled for Newport, Indiana, September 10. We expect to have full details of this meeting at a later date.

— o —

New Classes for Canadian Pacific Exhibition

Three new classes have been added to the section for honey products at the Canadian Pacific Exhibition, Vancouver, British Columbia. A district display exhibit of not less than 150 pounds in standard containers in a space five by five feet will be

introduced this year with prize money four times the regular scale. Also, open to individual beekeepers with less than 10 colonies is a 50 pound display for double the usual award. The third innovation will be for boys in manual training classes of public schools for a standard 10-frame beehive for scale, prize money offered by the Exhibition Association on recommendation of the British Columbia Honey Producers Association. Plans for the hive may be obtained from the Department of Agriculture, University of British Columbia, Vancouver.

F. H. Fullerton,
British Columbia.

— o —

Illinois State Fair

Pledges of honey for the 1938 Illinois State Fair prize list and cooking school are accumulating. Miss Van Gilder, superintendent of the department, would like to know just how much she will have. Drop a postal card to Hoyt Taylor, Pleasant Plains, Illinois, Secretary of Illinois State Beekeepers' Association telling him what you will have for the fair. If you can spare a 5 pound pail for use at the fair, deliver same under your own label to Miss Van Gilder, Food Show Building, State Fair Grounds, Springfield, Illinois.

— o —

Indiana State Fair

The dates for the Indiana State Fair this year are September 3 to 9 inclusive. Begin your preparations for your apiary exhibits now.

— o —

Manitoba Co-operative

The Manitoba Co-operative Honey Producers are now fully organized. J. W. Braithwaite, vice-president of the Manitoba Association is also president of the Co-operative with J. L. Tessier as vice-president, B. A. Bedford, Karl Knopf, R. D. Nicholson, H. J. Peddie completes the board of officers. H. J. Peddie was appointed secretary-treasurer with offices at 213 Confederation Life Building, Winnipeg.

F. H. Fullerton,
British Columbia.

— o —

Ohio Summer Meetings

The Ohio Beekeepers' Association is scheduling three district summer meetings as follows: August 10—Ohio Experiment Station, Wooster; August 11—Bellefontaine; August 12—Washington C. H. Elaborate plans are under way to make these meetings unusually attractive. Out-of-state beekeepers are extended a cordial invitation to attend.

W. E. Dunham, secretary.

Chautauqua to Honor Gale



The Chautauqua County Honey Producers' Association (New York) will honor its oldest beekeeper, L. D. Gale, at his home July 20, when Mr. Gale will be 84 years old.

Mr. Gale is a charter member of the association. He was its first president and continued so for five years and is now the vice-president. He has been an important member, freely giving his time to any others wishing help and information. Mr. Gale has had 70 years of experience in beekeeping, starting with two colonies, increasing the number until in 1917 he produced fifteen thousand pounds of honey. Today, he has what he calls a small apiary of one hundred colonies, which he cares for himself, and which he calls "his pastime." His principal business is agriculture, operating a five hundred acre farm on the Stedman and Sherman road. He was at one time a correspondent of the *Rural New Yorker* and was employed on the State Institute force as a lecturer.

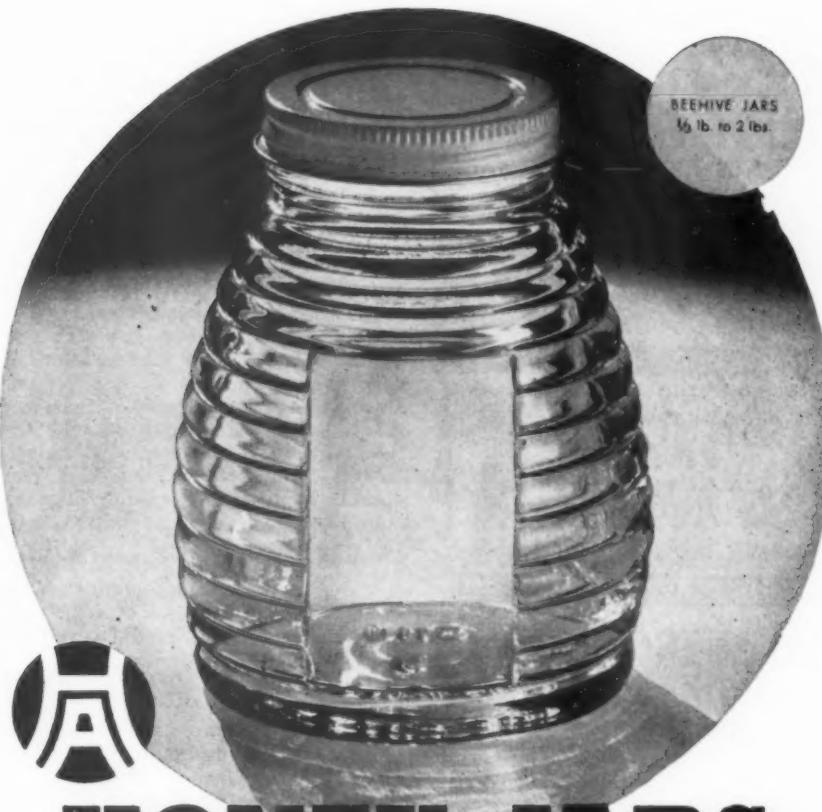
The Chautauqua Association, with the aid of Dr. M. J. Beal, president, and O. B. Linquest, secretary, are making elaborate plans for a big day on July 20, with eminent speakers. Beekeepers and their families are all welcome. Coffee, cream, sugar and ice cream will be furnished by the association.

O. B. Linquest, secretary,
New York.

— o —

Michigan Meetings

The summer meetings of the Michigan State Beekeepers' Association will be held August 3, 4, and 5 at the

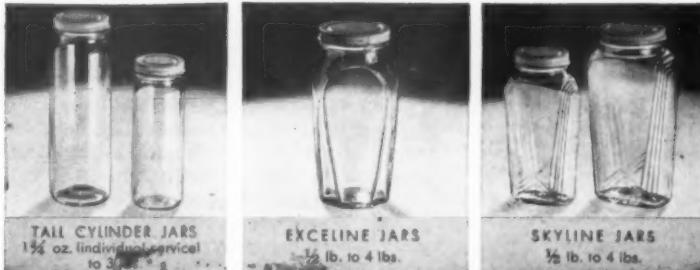


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following points: August 3, Flat Rock, where the Reinholds keep bees in big hives; August 4, Frankenmuth, center of the heaviest honey producing area of the state, where Walter Grauer will be host, and where near-by outfitts will be visited; August 5, East Jordon, at the apiaries of Ira D. Bartlett.

R. H. Kelty, secretary.

— o —

Connecticut Summer Meeting

An unsigned announcement which we received indicates that the Connecticut Beekeepers' Association is planning a bee hunt as a special attraction at their annual summer meeting and picnic, on July 9. The meeting is to be held at Winchester, County of Litchfield, at the Winchester Highland Lake Club cabin.

— o —

Madison County (Indiana) Meeting

The second annual summer field meeting of the Madison County Beekeepers' Association will be held at the Peter C. Hoppes apiary, west of Anderson, on highway 32, at the home of Mr. and Mrs. Lowell Johnson, across from the Edgewood school. The program will begin at nine o'clock with a tour of four apiaries in the county. There will be a basket lunch at noon. M. J. Deyell and James E. Starkey will be the principal speakers in the afternoon and Mr. Starkey will demonstrate transferring bees from box hives. There will be various contests with prizes for the victorious contestants.

Beekeepers from the surrounding states are invited to attend. Mr. Hoppes, at whose apiary the meeting is to be held, is eighty-four years old, takes care of his own bees, does all his work alone.

H. H. Sigler, president.

— o —

Southeastern Kansas Meeting

Members of the Southeastern Kansas Beekeepers' Association will hold their annual picnic on July 17, at the E. L. Yount apiary, on highway 69, three miles north of Chanute, Kansas. There will be two state speakers—R. L. Parker, Manhattan, and George W. Kinkead, Topeka. A business meeting will begin at 10:30 A. M. and will be followed by a basket dinner at noon. The afternoon program will begin at 1:30. There will be plenty of iced tea and iced water. All beekeepers and their friends are invited to be present.

Wm. Krueger, president.

— o —

Beekeepers Meet at Grand Forks

Plans are shaping up well for the joint summer meeting of the Minnesota and North Dakota Beekeepers' Association to be held at Grand Forks, North Dakota, July 28 and

29. This should be a most valuable meeting for anyone interested in bee-keeping of this region. Plan to spend a couple of days renewing your acquaintances with fellow beekeepers and improving your store of knowledge on the subject of bee-keeping.

Speakers already secured include Professor L. T. Floyd, Provincial Apiarist of Manitoba, and Dean H. L. Walster, of the North Dakota Agricultural College. Others are still to be heard from. It is hoped that a week or so before the meeting a program will be ready for mailing.

We are fortunate in securing such outstanding men as Floyd and Walster. They have always taken a keen interest in the development of beekeeping of the Great Plains region. We are assured of hearing from them talks of real interest.

The two-day session will include a program of talks and discussions on beekeeping, a tour of commercial bee yards of this section of the Red River Valley, and a picnic luncheon, for which the Grand Forks Chamber of Commerce will provide the coffee, cream and sugar.

J. A. Munro, secretary.

— o —

New Jersey Meeting

A meeting of the New Jersey Beekeepers' Association will be held at the apiary of H. P. Holloway, West Creek, Burlington County, on Wednesday, July 13, at ten o'clock, DST. Bring lunch and all the family. An opportunity for salt water bath is promised.

E. G. Carr, secretary.

— o —

Virginia Meeting

The regular summer meeting of the Virginia State Beekeepers' Association will be held on Wednesday, July 20, at Miller Park, Lynchburg. As usual, this will be a basket picnic and watermelon feast. There is a good place to swim for those who wish to cool off.

At present the program has not been completed but there will be some important speakers on hand. All beekeepers are urged to be present and to join in the discussions, some of which will be along the line of transferring and cleaning up foul-brood.

H. W. Weatherford, secretary.

— o —

New Southern Association Organized

A new beekeepers' organization has come into existence in the South. On April 27 the beekeepers of Mississippi and Louisiana met in Vicksburg, Mississippi, and organized the Delta Beekeepers' Association. This association will hold a business meeting in the Y. M. C. A., at Vicksburg, on the first Monday of each month, at 8:00 P. M. At this meeting

we shall name a time and place for a field meeting to be held on a Sunday afternoon of the same month.

The initiation fee is twenty-five cents and monthly dues are ten cents. This makes it possible for every one who is interested in bees to join. We now have twenty members and hope to increase this number to fifty by fall.

Anyone who wishes further information regarding this organization may write the secretary.

A. B. De Lozier, secretary,
Box 749,
Vicksburg, Mississippi.

— o —

Iowa Summer Meeting

The Iowa Beekeepers field meeting will be held jointly with that of the State Horticultural Society at Pellett Gardens, Atlantic, on Thursday, July 14.

The horticulturists start the morning program at 9:30 with visits to the asparagus, tomato and berry fields in company with members of the staff of the Horticultural Department of Iowa State College. Field cultivation is with a garden tractor, no horses being used. Provision for irrigation by electric pump from deep well is of interest to berry growers.

The afternoon program will be given over to consideration of the cooperative experiments carried on by Iowa State Agricultural Experiment Station and the American Bee Journal. Dr. O. W. Park will tell the story of the effort to find bees which are resistant to American foulbrood and Dr. J. N. Martin will discuss the red clover problems of the mid-west farmer and the effort to find red clover with flower tubes short enough to permit the honeybees to reach the nectar.

Visitors should bring a basket lunch. Coffee will be served by the association. Atlantic is on highway 71 north and south, and on highway number 6 east and west. From Atlantic go north one and a half miles on Olive street road and one mile east.

— o —

Arkansas Valley Meeting July 16

The Arkansas Valley Beekeepers' Association will hold their annual picnic at the Park Villa in the city park at Wichita on July 16. A basket lunch will be served. There will be a short program following the lunch.

R. L. Parker, Sec'y.

— o —

Lehigh-Northampton (Penna.) Meeting

On Saturday, July 9, the Lehigh-Northampton Beekeepers' Association will hold its annual meeting, beginning at 9:30 A. M. at the honey

house of Roy Howell, Saylorsburg, R. D. Contemplated guests are the beekeepers from New Jersey and from Carbon, Monroe, Luzerne, and Schuylkill Counties, Pennsylvania. The following program has been arranged:

9:30 A. M.—Inspection of honey house of Roy Howell.

12:00 Noon—Basket lunch, Weir Lake.

2:00 P. M.—Floyd Sandt's apiary, Easton, Pennsylvania. The following program will be given: William Glebe, Chief Apiarist, Pennsylvania, "County Appropriations for Disease Control"; E. J. Anderson, Extension Apiarist, Pennsylvania State College, "Grading and Marketing"; E. G. Carr, "Detection of Failing Queens"; Mr. Holcombe, Inspector of Apiculture, New Jersey, "Disease Identification." Carleton T. Woodring.

— o —

Massachusetts State College Farm and Home Week

The Massachusetts State College Farm and Home week will be held July 26, 27, 28, and 29. The beekeeping program will be Thursday, July 28 and will be as follows:

10:00 to 11:00 A. M.—"The Cycle of the Year." A discussion of the sequence of events throughout the year in beekeeping. Dr. E. F. Phillips.

11:00 to 12:00 A. M.—"Queen-Rearing." Allen Latham.

12:00 to 12:45 P. M.—Business meeting of Federated Association Massachusetts Beekeepers, George Meigs presiding.

2:00 to 3:00 P. M.—"Apiary Inspection in New York State." A. C. Gould, Chief Inspector of Apiaries in New York State.

3:00 to 4:00 P. M.—"Swarm Control." Dr. E. F. Phillips.

In addition there will be eighteen other programs for men and women the four days of the Farm and Home Week. These programs include general homemaking, community organization and recreation, food preservation, clothing and textiles, consumers' forum, home flower gardens, lawns, forestry, feed dealers, poultry, nurserymen, commercial vegetables, fruit growing, public speaking contest for Massachusetts Farm Bureau Federation Women, parents' institute, Grange day, Parent-Teacher Association institute, goat breeders, and general agriculture and dairying.

Special features include garden tours, special dinners, livestock parade, one-act plays, and vesper services by Connecticut Valley choirs. There will be a special four-day program on community organization and recreation which includes music leadership, playground leadership, and nature recreation.

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Automatic Control of Queen Introduction

By Rev. Geo. A. Walter,

Illinois.

I HAVE been a clergyman-beekeeper for over twenty years. This year I produced over 5,000 lbs. of honey from 12 colonies and 11 two-pound packages. During these years I have tried various methods of introducing queens, always with a percentage of failure and consequent loss of queens.

For a period of three years I have experimented in this field and believe from actual tests made, that I have developed a method whereby any beekeeper can introduce a queen into a queenless colony and succeed under any circumstances of colony condition, since by this method, after the first operation of placing the caged queen in the hive, the beekeeper can release the queen automatically, at will.

I have successfully introduced a queen into colonies which have been long queenless, and my latest success was in introducing a young laying queen into a colony which had a laying worker for several months.

With this method, I use a "Safe-in" cage, (see illustration). This cage has a square hole in each end with a piece of queen excluding zinc inside the cage on one end over the hole. Into these holes, I insert a wooden plug, fitting snugly, yet not too tightly. Through the end of this plug, outside of the cage, I bore a small hole and insert a piece of wire about 2 ft. long, such as is used for wiring frames. When a colony is to be requeened, and the queen is on hand, I cage the queen in this cage without any attendants, then I take a frame from the brood chamber, (or any frame will do), cut an opening under the upper bar near the middle of this frame and fit the cage snugly into this opening, fastening it with a nail through the upper bar, leaving space enough at each end so that the plug can be pulled out while the cage is in place. I always place the end with the zinc excluder toward the front end of the hive, so I may know which wire to pull first. Then I bore a small hole from the outside of the hive both from the front and the rear, using a $\frac{1}{8}$ inch drill, in a straight line with the end of the cage. Through these holes I push the wires and close the hive. In 24 or 48 hours, according to the kind of colony you are working with, I pull the front wire, so the plug comes out of the cage. Bees will crawl in and mingle

with the queen, getting fully acquainted and giving her the hive odor. In another two or three days according to the condition of the colony, I pull the rear wire and presto, the work is done. The queen is released automatically and becomes a part of the hive.

In introducing the queen into the colony of the laying worker, I shook the bees through a queen excluding zinc, and think I found the laying worker and killed her. Before releasing the new queen in the method described, I left the rear plug in three days after pulling the front plug wire, which was done two days after being put in hive.

This method may take a little more time and detail work than some other methods, but it is sure to succeed without the loss of queens. After the cage is in the frame with comb, it can be used over and over again, and it is surprising how quickly the work can be done.

ABJ

How to Bait Reluctant Bees Into Supers

By Alfred H. Pering,

Florida.

The most effective bait I have ever used to coax reluctant bees into the supers is a comb of brood. This brood may be in all stages, but as a matter of convenience, and to make it unnecessary to look into the super to see that queens are not reared, increasing the tendency to swarm either above or below, it is best to have the comb of brood sealed. This sealed brood will emerge quickly enough and the combs will be filled with honey about as fast as the other extracting combs are so that all the combs will be ready to come off together.

Coaxing the bees into the super has a tendency to settle them to work and will in many cases prevent swarming or will delay it for a time.

Empty combs have been considered as par excellence for bait in either comb honey or in the extracting super. I find quite frequently when I use standard equipment, that when there are all empty combs in the

supers, the bees seem to consider their storehouse is full and that there is little reason for delay in sending out a swarm.

I once heard Jay Smith say at a Short Course that the bees will always finish a job they once start if conditions are favorable for it. I have noticed that, too. Combs being built from starters and frames with foundation partly drawn will always be finished later when conditions of the honeyflow improve. A super full of empty drawn combs may not delay a swarm, as partially built combs will do. The bees in the brood chamber appear to want to finish the job above, when there is a place there to use the new wax which is produced below. If no other place for this new wax is available, it is built into burr combs and preparation for swarming begins.

Where a large hive is used, the swarming problem is not so great, but even then the beekeeper must provide conditions within his power to aid in swarm prevention. Getting the bees early into the super is one of these conditions.

With the Langstroth frame, using two brood chambers with queen excluder between, the sealed brood for use in the upper story to get the bees into the full depth super, is not so hard to find. It can be taken out of the brood chamber. To avoid the certainty of not getting a queen above the excluder, bees may be taken off as they are not needed there to care for brood that is sealed.

When shallow extracting frames are used, securing brood for bait is more difficult. Whether the expense of getting brood into shallow frames for the purpose is a paying one or not is a debatable question. With me it is answered principally, on how badly it is needed and the results obtained, by using brood. At times I have found it satisfactory to keep a colony or two confined in shallow supers to supply with frames of sealed brood at any time.

Here in Florida citrus trees begin to bloom sometimes in very late January and to get orange blossom honey it is necessary to get the bees working promptly in the supers instead of rearing brood exclusively. I find nothing better than a comb or two of sealed brood placed above an excluder to get them working there early. The bees that emerge in the supers remain on deck and their presence apparently draws bees from below.

ABJ

How to Secure Good Drawn Combs

Mr. Frank H. Drexel (ABJ, p. 155) asks for the experience of others in securing good brood combs. There is just one way to insure the draw-

ing out of perfect combs and that is to use full sheets of wired foundation placed ABOVE THE BROOD, preferably in the second story and over a queen excluder. They should be fully drawn in advance of any requirements for brood rearing.

The practice of some beekeepers of replacing a part or all of the brood in the lower story with foundation seldom or never results in good combs. Hiving a heavy swarm on foundation in warm weather also usually results in a batch of inferior combs. The weight is very apt to stretch the foundation, even if wired, and nearly always there is left more or less open space along the bottom bar and at the corner of the comb next to the entrance. Even with split bottom bars and wide foundation there may be a considerable percentage of inferior combs due to gnawing and buckling.

When a swarm is hived, fairly good combs may be obtained if an empty super or hive body (no frames) is placed underneath. The cluster then becomes suspended from the bottom bars and works up gradually, thus avoiding any stretching of the foundation. The empty rim should be removed as soon as the combs are drawn out fully down to the bottom bars of the frames above and before cross-combs are built. When using this scheme there is also less danger of the bees absconding.

Good combs are a valuable asset and, if properly cared for may last a lifetime. We have several thousands of them more than twenty-five years old and in perfect condition. We use the Demaree system in which brood combs are changed annually, thus affording an opportunity for eliminating all except the best by working them into the supers and finally, after extracting, rendering them into wax.

Brood combs with more than five per cent of drone cells or of open space should be discarded. It doesn't pay to tolerate bad combs. Some combs may be salvaged by patching but they must be first used only in the supers and at the time of a honeyflow, never in the lower brood chamber, otherwise the bees will eat around the patch, rendering it valueless.

E. S. Miller, Indiana.

ABJ

Mineral Constituents Of Honey

In the recent work of Dr. Schuette of Wisconsin and D. J. Huenink, it was found that with the exception of calcium, the higher mineral content of honey is correlated with dark color. Dr. Schuette has done other work of this kind before and was the first to call our attention to the correlation between the mineral content and the color honey.

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Crop and Market Report

Compiled by M. G. Dadant

For our July Crop and Market page, we asked reporters to answer the following questions:

1. How is the crop so far compared to 1937?
2. How are prospects for balance of season, also in comparison with 1937?
3. How is new crop selling? Above or below last year's market?

Crop Compared to 1937

Naturally, in most of the sections of the country, the honey crop has not yet come into prominence.

However, we report as follows: The Middle Atlantic States have been somewhat disappointed in the early crop. Tulip poplar was short and other contributing forage has not been up to standard. The coastal sections have, however, fared somewhat better and gotten somewhere near the normal crop.

In Georgia and Florida, the early crops were not up to expectations and not up to the standard of 1937.

Alabama and Mississippi have probably had a little better crop than last year but the volume of exportable honey there is short in any case. Louisiana crop has been about 60 per cent of ordinary owing in some sections to drought and in others to too much rainfall.

Texas reports considerably less honey than a year ago, particularly in the south central parts of the state. East Texas and northern Texas seem to have done somewhat better and have nearly normal conditions.

Arizona undoubtedly has approximately as much honey as last year but the California crop has been extremely short in most sections. This refers particularly to the southern section of California where the orange crop is probably not over 40 to 50 per cent of last year.

Although the season opened up propitiously with a large quantity of rain which should have put honey plants in best condition, the weather has not been favorable since and the orange crop was short and black sage has been practically a failure.

In the more northern sections, comprising the central belt of states, the earlier stimulative flows have been satisfactory and bees were coming along nicely except that the cool and rainy weather has interfered somewhat with the buildup of the colonies.

In the extremely northern section, comprising the states of Michigan, Wisconsin, Minnesota and Dakotas, inclement weather has held the bees back.

All in all, we would judge that on June 10, bees were not in average normal condition throughout many sections of the country which likely will have a tendency to reduce the crop prospects.

Prospects for the Future

Prospects in Maine and Vermont are not good on account of dry weather. In fact, Maine, Vermont, parts of Texas, Louisiana, and the northwest states of Washington, and Oregon are practically the only ones complaining of drought although there is some drought in some sections of North Dakota and Minnesota. This refers to the more northerly section.

In the Middle Atlantic States, there is still the hope of a heavy flow from sourwood and Georgia and Florida report about normal conditions for the balance of the season.

Texas has just recently been reporting an excellent

mesquite flow and it is possible that a part of the shortage of their crops will be made up by the better later flows.

It is in the central belt of states, however, that we see the grandest chance for a crop. Beginning with the New England States and stretching across the wide belt comprising the states of New York, Pennsylvania, Ohio, Indiana, Illinois, Iowa, Missouri and into Nebraska and Kansas, conditions have been excellent for the growing of clover plants and many reports are coming in that there never was known to be as many clover plants of all kinds as this year.

Up to June 10 to 15, the weather had not been desirable for the best honeyflows, but since then cool nights, hot days and plenty of moisture have made for desirable flows. It now looks like a bumper crop throughout all of these sections with the possibility of similar conditions in the states of Minnesota, Michigan, Wisconsin and the Dakotas if the cooler weather, previously reported, is followed by warmer conditions.

Happily, Kansas and Nebraska which were so badly hit last year, and Oklahoma and South Dakota as well, are reporting excellent conditions this year.

Montana apparently is normal or above and the above intermountain section is reporting conditions which are at least normal.

Last year we might estimate that conditions were below normal in those sections. The amount of snow available is somewhat more and moisture has been satisfactory although weather has been a little too cool.

Idaho, which suffered a bad failure last year, seems in better condition this year as do the states of Nevada and Utah.

In the northwestern states, conditions will be almost, if not a little above, normal.

California reports possible prospects for the mountain flowers as being desirable but no chance of building up to the equal of last year's crop. Reports are that many colonies are being moved east into the sweet clover, alfalfa territory.

All in all, it does look like there is going to be a fair better crop than last year in spite of the failure of California to produce as they had anticipated.

And one thing about it, the honey is going to approach water white this year rather than the mixture we had last year which comes from draggy flow and an admixture of nectar from many different sources. Samples which have come in to the writer already of central western clover honey show it to be practically a water white with just enough of the little Dutch white clover in it to give it that admirable flavor which we white clover folks have always enjoyed.

New Crop Selling

The new crop in California is already selling and at approximately the same price as last year, owing to the fact that the crop is light. In the southeastern states, particularly in Georgia, reports are that the new crop is about 1 cent a pound less than the crop last year although the volume of honey produced would not justify such a drop.

All old crop honey is practically cleaned up except a few amber grades and there has been a little spurt in demand during June for enough honey to tide over until the new crops are available.

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As a measure of precaution to our readers, we require reference of all new advertisers. To save time, please send the name of your bank and other references with your copy.

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WANTED—Truck load 1938 clover honey. Must be very best grade. Ellsworth Meineke, Arlington Heights, Ill.

WANTED—Carlots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookingham, Inc., Los Angeles, California.

WANTED—Comb, chunk comb, white and light amber extracted honey. Any amount Central Ohio Apiaries, Millersport, Ohio.

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CARTONS for Cut Comb Honey. New attractive designs with your name and address. Low prices. Fast service. Samples on request. May Carton Co., Box 257, Traverse City, Mich.

BOOK BARGAIN—Very slightly damaged copies of Beekeeping in the South by Kenneth Hawkins, cloth bound, published to sell at \$1.25, price postpaid only 29 cents.

American Bee Journal, Hamilton, Ill.

BEEGONE Takes Off Honey. Pint sample 60c prepaid. Honey House, Adrian, Mich.

Holding Swarms

We've learned many things about bees and still have a tremendous amount to learn. One of the things as yet unlearned is how to hold a swarm after it has settled. We've consulted text books, taken the advice of experienced apiarists, and even listened to those "I know all about bees" types. Yet, in spite of all this, the bees have, in about ninety per cent of cases, like our money, bade good-by to us.

We recall in our early days of bee-keeping, while clambering after a swarm being hailed by one of the know alls of Lees, who shouted "Why don't you put the 'traps' on your hives? You wouldn't have to risk your neck then." Very simple, why didn't we think of it before? But unfortunately, like catching sparrows with a box on a stick and pulling a string it's one of those things that won't work.

Now, if there's one thing in the realm of bees and beekeeping that is distressing and gives one a feeling of kicking someone or something, it's having to cease operations to capture a swarm. If swarms were all prime swarms, i. e. headed by the laying queen, capturing them would be simple and the "traps" referred to would "work." But for every prime swarm that issues, there's half a dozen, at least, afterswarms, and these have one or more virgins, some containing as many as a dozen or

more. These virgins give all the trouble.

We are mindful that prevention is better than swarms and do all in our power to prevent the issue of them. But there's always a likelihood of an oversight, missing a queen cell, etc., and "Bees do nothing invariably," so that we must expect a certain percentage of swarms.

The book says: "Insert a frame of unsealed brood in the hive in which swarm is to be put. This will cause the bees to stay." Yes, when the old laying queen is with swarm, but we've seen bees take no more notice of unsealed brood than elected politician takes of his electors. Unsealed brood, too, will cause the disappearance of the virgin, or virgins. We've been advised, "Don't hive 'till after dark," followed it and found the bees have beat us up next morning. A little experience with swarms soon teaches the bother of these notorious virgins settling on the top-most branches of the tallest trees. And the irony of risking one's limb or life only to have the swarm escape! Our thoughts turn to evil and we ask, not in these words, but to the same effect, "Is it worth the bother?"

We've been told of shade, of ventilation, but with the same results. We've tried a queen excluder under hive and this over an empty super. We've been told leave 'till bees settle. Excluder will prevent virgins from escaping. Well just how long it takes bees to settle is what bothers us, for we've left for weeks, and as soon as the excluder is removed, bees and virgin have vanished. We've had virgins get through excluder and abscond with bees, we've seen cases where bees have left (probably one virgin escaped) and half a dozen dead virgins remained imprisoned. We've tried carrying swarms into a room and leaving a few days, a week, and the sequel is the loss of the bees. Oh, those foolish virgins! Jay Smith with his stingless bees indeed! What is this compared with swarmless ones!

Oh well, it's like it's been said about women. "If they will, they will, you may depend on it; and if they won't they won't, and there's an end of it." Only we are a little worried over swarms that do take it i : their heads to stay "put" for fear we die of heart failure.

I think it was Josh Billings who wrote thus about a flea: "A flea is an animal, which, when you have caught him, he isn't there." Oh! If he had only known about swarms!

The best way to keep swarms is the preventative way every time, and bear the rest with patience and fortitude.

T. T. Jones,
New Zealand.

Bee Prepared

Beekeeping played its share in the world's largest boy scout exposition in the history of scouting.

On April 21, 22, the Detroit Area Council of the Boy Scouts of America, comprising 399 troops, put on their second merit badge show at Convention Hall, Detroit. Over 60,000 people viewed one hundred and sixty-six booths depicting the several degrees of advancement in scouting.

Two beekeeping exhibits proved to be among the major attractions.

Troop 103, Harmon School, commercially sponsored for the show, by M. H. Hunt and Son, had their booth well decorated in yellow and black crepe paper with unique displays of honey baked goods. A glass sided hive, and bees in a wire cage, plus the manipulation of equipment completed the exhibit. Located in the main aisle, Troop 103's beekeeping booth was fortunate in being on the air over station WWJ, Friday afternoon in a booth to booth interview.

Troop 212, Hanstein Community Club, commercially sponsored by the A. G. Woodman Company, of Grand Rapids, had a larger booth and was fortunately located near a journalism booth, whose members gave them good publicity in their exposition paper, "SCOUT TRAILS."

Troop 212 had full beekeeping equipment which was manipulated, the scouts using bee veils and smoker with the hive. A glass observation hive held a fine display of bees with the queen laying heavily, and almost wrecked the booth as the crowd time and again forced the yellow and green picket fence forward. A quiet garden scene looked like a Roman holiday. The booth was attractive with large paper bees wearing scout hats and shoes, some marching, some asleep on stools.

The honey display consisted of section honey and four pints of extracted honey, milkweed, buckwheat, clover, and solidly granulated clover honey. The boys maintained a talk of explanations, informing that granulated honey was pure honey, and stating the chemical contents. The highlight perhaps was the honey candy cooking demonstration carried on in the background.

Sixty thousand Detroiters took home to others the story of bees and honey. Both booths rated high in public interest and hope to do even better at the next biennial show.

We learned that "Flighty," who writes from time to time for American Bee Journal, coached Troop 212 for two months and was largely responsible for the booth's success.

Elmer Carroll,
Michigan.

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Untested queens **50c** each. Tested queens **\$1.00** each. 2-lb. pkg. with queen **\$1.95** each. 3-lb. pkg. with queen **\$2.55** each. Packages without queens, deduct price of queens, for additional lbs. of bees add **60c** per lb. For clipped queens, add **10c** extra. 15% Discount to Recognized Dealers Only.

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Getting Foundation Drawn

By Ivan Whiting,

Illinois.

IN the April issue, Mr. Drexel wishes to know how to get foundation drawn out. This topic is closely related with supering and that in turn with swarming. The swarming problem is much different in Colorado from what it is in Wisconsin, so my supering for swarming prevention may not be necessary in Colorado.

In Wisconsin I came to know an old beekeeper, Levi Baldwin, of Hingham. He kept 150 to 250 colonies in one location and secured large crops of honey. He practiced top supering, removing the combs in which the bees were storing from one side of the top super and putting empties in their place, then putting the removed frames with bees in the new top super. The bees would go to storing immediately in the empty combs placed in the former top super, later working up into those in the new top super. Mr. Baldwin never had A. F. B., did very little requeening, and never molested the brood during the honeyflow. He used no queen excluders, but the bees nearly always crowded the queen down into the bottom story. In spite of the free access of the bees to all stories and the improved method of top supering, Mr. Baldwin had swarms, often several, from nearly all his strong colonies, and it was from his early swarms, supered in the same manner, that he secured most of his honey crop. He was always in the apiary during swarming and took it as a matter of course.

Observing that top supering did not control swarming except further swarming on the new colonies, I used his method with bottom supering and found that the bees seldom made swarming preparations when given room in time. When I had supers of foundation to give, I alternated the frames with partially drawn and filled frames on which the bees were working, placing the two supers together. The bees began drawing out the foundation in both supers immediately and seldom started to swarm. Of course, queen excluders must be used with bottom supering over single brood chambers. Foundation must be given only during a honeyflow. The frames in each super must be close together to prevent joining combs. The last frames given will have the thinner finished combs. By using this method of supering, some frames containing foundation, I have secured over 400 pounds surplus besides leaving the colony a full depth super of honey. These

colonies had no brood removed, no change of queens, and did not swarm.

This method requires so much labor, especially if supers are not removed when finished that it may not be practical in commercial honey production. It may be better to control swarming in some other way and not alternate frames. But when a beekeeper can afford the time, I know of no other method for getting good combs drawn so quickly from foundation.

ABJ

Cutting Grass in the Apiary

One of the problems in running outyards is keeping the grass cut. If livestock is allowed the run of the yard they may rub against some of the hives and tip them over; and if the yard is located in a spot where grass will not grow it is likely to be more or less inaccessible. Shade helps, but if it is too heavy it retards the bees in their work. H. W. Weatherford has an enormous pecan tree that provides shade for his entire home apiary of some 40 stands. But such trees are rare, and still more rarely available for outyards. About the only solution in most cases is to grind your scythe and go at it.

The smoker should be well filled and burning freely. Walk down the row in front of the hives, blowing a cloud of smoke toward the entrances. This will drive the bees back from the entrances, at the same time quieting some of those in the air. Then mow the space in front of the hives, throwing the grass first away from the entrances. This mowing seems to irritate the bees. Generally you get some stings, but by keeping the smoker hooked to your belt and blowing a cloud of smoke around when necessary you can make out.

For working close to the entrances a sickle is handy. You can work this with one hand and the smoker with the other so that fewer stings are received when mowing close to the hives than when mowing the open space with the scythe. Although commonly used to hack at the grass, the sickle will work close to the ground like a scythe and if kept sharp will cut the grass close and smooth.

W. H. Hull, Virginia.

ABJ

Bees in British Columbia

A fifty per cent increase in importation of bees into British Columbia from California is reported by Frank Jones, secretary of the British Columbia Association, for the spring of 1938. California shippers have been quite attentive to the requirements of the British Columbia trade, filling orders promptly. It is an important market for them.

F. H. Fullerton, British Columbia.



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Rosedale Hutterian Mutual Corporation, Erie, Manitoba, Canada

The Postscript

Gossip About the Office in the Making of the Magazine

In a recent letter, A. G. Woodman tells an interesting story of how, when a new railroad was built through some land owned by the family, his father sowed the bank of a deep cut to sweet clover. At that time there was much prejudice against the plant and beekeepers were generally responsible for its spread over the entire country. Even yet stories are told in the old neighborhood of how the elder Woodman hitched up the old nag on Sunday morning and spent his time in sowing sweet clover along the highways.

ABJ

It is largely due to the persistence of the old time bee-men that we of today owe our best bee pasture. But for them it is doubtful whether sweet clover would have even yet have been accepted as a forage crop worthy of a place in the farm rotation. My own grandfather was among the readers of this magazine of fifty years ago who joined the crusade for sweet clover by sowing it in waste places.

ABJ

Edward D. Wirth, who lives on Long Island, in New York, reports that his honey comes chiefly from locust, poison ivy and charlock. There are several hundred acres of lima beans within reach but he has never known the bees to work them. In California, beekeepers report good crops from lima beans. The charlock, (wild radish) is said to be one of the best honey plants in some sections of Nova Scotia. Poison ivy is very attractive to the bees, but seldom common enough to yield surplus.

ABJ

Part four of the monumental work on "Vegetables of New York" has recently appeared. This book, which deals with pumpkins, squashes, muskmelons and cucumbers, is illustrated with numerous beautiful colored plates showing the varieties true to life. Since these crops depend largely upon honeybees for pollination the growers are likely to be beekeepers and many of our readers are probably interested. The book is published by the Agricultural Experiment Station, at Geneva, New York.

ABJ

From W. J. Bougen, pioneer plant breeder of Manitoba, comes a packet of seed of "Northern Honey-sweet Muskmelon," originating in Poland and said to be the "best in the world." Strange how often the word honey is used to designate high quality. We beekeepers have the finest advertising opportunity available to any agricultural product in this peculiar recognition of honey as the measure of all that is pure, sweet and wholesome.

Already there are several well-known varieties of melons which carry the word. There is a "Honeyball," a "Honey Dew," and a "Honey Rock." It would be interesting if someone would compile a list of names of fruits, vegetables and flowers which include the word honey in their names.

We are looking forward to seeing whether this honey-sweet melon comes up to its promise.

ABJ

Judging from the way the bees roar over our one honey locust tree it must yield nectar freely under favorable conditions. There is a black locust tree growing beside this one and both are blooming at the same time. There are far more bees among the blossoms of the honey locust than among those of the other. This tree has been blooming for several days with a continuous sound like swarming bees all the time. The weather has been showery, a condition which seems unfavorable for nectar secretion with some plants.

ABJ

T. B. Stockwell, of 3375 E. Street, San Bernardino, California, offers to send seeds of the silk tree, and *Sophora Japonica* to any beekeeper who will send a self

addressed stamped envelope for mailing. The silk tree is a native of East India and will grow only in warm climates, but the other will grow farther north. The silk tree is said to be a very good honey tree.

ABJ

If all railroad employees were as loyal to their employers and as good boosters for their lines as Paul Jones, of Portsmouth, Ohio, is to the Norfolk & Western, there would be less worry about bus and truck competition. An occasional reminder from him prevents me from forgetting that some day I want to see the rhododendrons in bloom in those eastern mountains.

We have some the world's richest soil here in Iowa, but we miss the rich variety of plant life common to the southeast. It is only the hardy things that can stand our extremes of weather.

ABJ

In pioneer days bee hunting was really taken seriously and wild honey was an important source of sweets. On one occasion a serious dispute arose between Iowa and Missouri over a certain area on the boundary. The bee trees in the area were the reason of the dispute and both states called out the militia and open warfare was narrowly averted. Perhaps Iowa and Missouri beekeepers might find it worth while to hold a joint meeting in this section at some time, but it is doubtful whether they could find a bee tree there now.

ABJ

An Idaho beekeeper reports that farmers in his locality are cutting the alfalfa before it blooms and thus depriving the beekeeper of his chance for honey. Alfalfa is a fine honey plant in neighborhoods where it is grown for seed, where they must depend upon the bees to a large extent for pollination. Where it is grown for hay the beeman is out of luck.

ABJ

There is more clover in this part of Iowa than there has been for many years. It is hard to see how it remained alive through last summer's searing drought but there it is with the promise of a real honey crop for beekeepers with strong colonies. Our hives on scales gained sixteen pounds in two days in the early part of the honeyflow and that is a good report for this neighborhood in any year.

ABJ

Honeyflows are erratic and unpredictable. Within a few days we have seen the hive on scales gain as high as fourteen pounds in a single day and then fall as low as three pounds in two days. During this time yellow sweet clover was in full bloom with apparently favorable weather conditions. It is common knowledge among bee-men that at times there is an abundant flowering of the honey plants with little honey gathered. At other times good crops come from a scant bloom. When the bloom is heavy and the yield abundant the big crops come.

ABJ

We are hoping that the test plots of new forage crops will bloom in time to be seen by visitors who come for the beekeepers' field meeting to be held here on Thursday July 14. Our plots are very small but promising. The Kent wild white clover shows a vigorous growth this season with plenty of rain but may prove a failure in dry years.

The bird's-foot trefoil is said to be very drought resistant and may prove to be worth while for Iowa pastures. We also have the yellow flowered Semipalatinsk alfalfa and some of its hybrids and two new sweet clovers with fine stems.

FRANK C. PELLETT, Atlantic, Iowa.